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EMS EXPLAINED

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Editor:
Tana Lane

Art Editor:
John Gibney

Marketing Manager:
Patrick J Codyre

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Victor Gibson

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Waste recycling technology could be about to expand dramatically. For the implication this will have on IHVN readers, see page 8.

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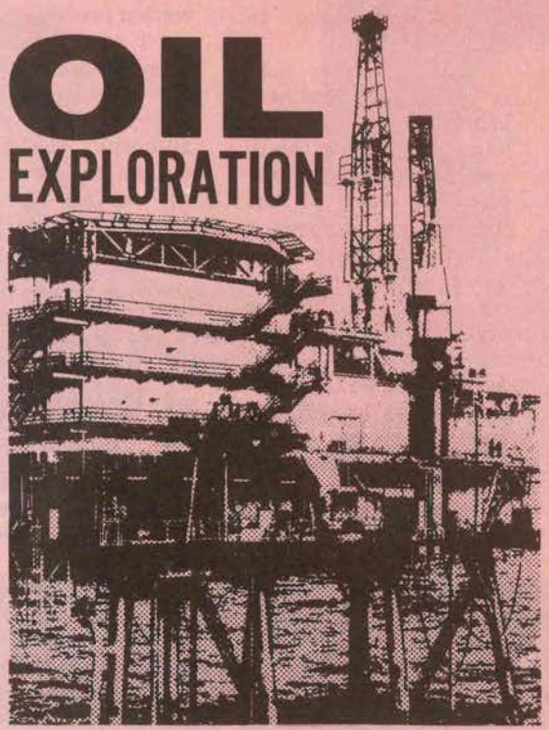
Planning permission for Trinity College to build a radioactive waste incinerator at the playing fields in Santry Ave. has been granted – or has it? Page 2.

OIL EXPLORATION



2000-The Energy Forecast

Ireland's consumption of energy will have doubled its 1977 level by 1990, and, by the year 2000, it will have risen by a factor of three. Martin Reilly, IIRS Environmental Technology Department, and J G Duggan, National Board of Science and Technology, discussed their predictions recently at a seminar in Galway. See page 34.

CIBS/IEE SEMINAR

IHVN attended the first lighting seminar to be jointly sponsored by the CIBS and the IEE. A pictorial review on page 37.

Are our Terms too Tough

Aran Energy Managing Director, J Whelan, discusses some of the problems oil exploration companies encounter in this country on page 19.

EMS

"If, as appears likely, the Irish Pound breaks parity with Sterling, there will be a substantial accounting impact on all companies which carry on trade with the UK" – John Stanley, Bank of Ireland, said at a recent meeting in the Burlington. See page 14.

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Radio-Active Waste Project Hangs in Balance

Although planning permission has been granted to build a radioactive waste incinerator in Santry, local residents' opposition is almost certain to bring the matter to Bord Pleanala for final arbitration.

The residents initially began lobbying local public representatives when they learned that Dublin County Council was about to give Trinity College planning permission to build the incinerator at its playing pitches in Santry Avenue.

Besides the location of the project, the residents were concerned about safety regulations and have called upon the Minister for the Environment to set up a public enquiry into the entire project. In the event of the incinerator being built, the group want a detailing of safeguards which will apply and assurances that these will be rigidly enforced.

The planning permission granted to Trinity College, IHVN has learned, lays down very stringent rules including the transport of radioactive waste which must be under the control of the Nuclear Energy Board.

Before the permission was granted, the Council acknowledged that there were numerous letters and objections from individuals and groups. The Dublin Medical Officer of Health, Dr O'Donnell, however told the planning authority that he had no objections to the proposal, subject to the acceptance by Trinity College of all the conditions laid down by the Nuclear Energy Board.

The permission was granted under the Local Government (Planning and Development) Acts, 1963 and 1976.

In defence of the scheme, Dr Ian McAuley, Radiation Safety Officer, wrote in a recent article in Trinity College Gazette, in which he says the following:

"Radioactive substances are used in many of the departments in the medical and natural sciences faculties. The uses are widely varied and range from teaching in first year laboratory classes to fundamental medical and scientific research.

"All of these uses inevitably give rise to a certain amount of radioactive waste. Filter papers, chemical residues and cleaning materials, for example, and the problem of safe and effective disposal of this waste is one which requires careful consideration.

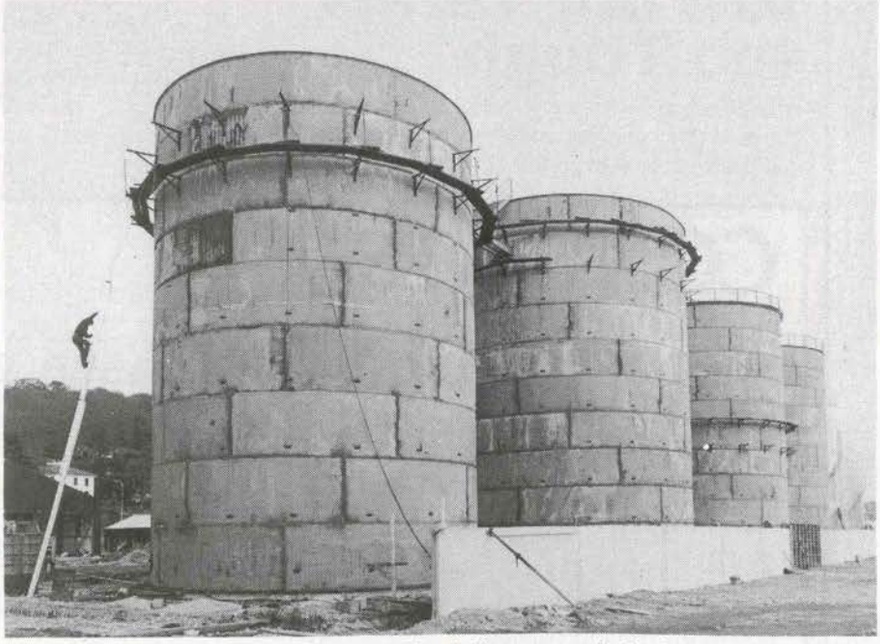
"Radioactive substances, lose their radioactivity gradually with time and for each substance there is a characteristic time, called the half-life, which gives the period required for half of the substance to decay.

"The substances used in Trinity at present have half-lives ranging from hours, to tens of thousands of years. In the case of some of the shorter lived isotopes it is feasible to store the waste separately until the activity has become negligible or undetectable, but in most departments mixed waste accumulates in bags and must be stored until a safe form of disposal is available.

"I have discussed the situation in detail with the Nuclear Energy Board, and they agree that incineration of the waste with subsequent retention of the ash produced, provides the best and safest method of dealing with the storage problem.

Of the incinerator he said: "It is important to state that all the dangerous radioisotopes will be retained in the ash. The Nuclear Energy Board will lay down stringent conditions regarding the frequency of operation, the amount and nature of the radioactivity treated and the monitoring of the incineration process.

"I am confident that these requirements and any others that may be imposed by the planning authority can be met by the college and that the safe use of radioisotopes in teaching and research can continue.



Whessoe (Ireland) Ltd designed and erected five bulk storage tanks for Conoco Ireland Ltd and BP Ireland Ltd at the new Tivoli site in Cork. The capacity is 12,000 tons of petroleum products and the value of the contract was £240,000. Over 300 tons of steel was used.

Job Loss at Waterford

Fifty-four workers employed by Waterford Ironfounders, part of the TMG Group, have lost their jobs due to a fall-off in demand for wood burning stoves in North America.

While the news is bad for those workers concerned, the position for the company's remaining 280 employees is considerably brighter. They have been on a three day week for some time now, but will revert shortly to "full-time".

The company's current selling season is nearing completion and preparatory work for 1979 is currently in progress. Details on exactly what new products, if any, are to be introduced are understandably vague. A new stove, however, especially geared for the American market is clearly indicated, a TMG spokesman said.

Another Record Year for Bord na Mona

Bord na Mona's annual report for year ending 31 March, 1978 says sales of fuel again reached record figures, with 4,279,000 tonnes of various fuels being supplied. Machine turf sales to the public were up by 12½%, briquettes by 5% and fuel sales to power stations up 7%.

Sales of moss peat products increased by 16% to reach a record level of 1,183,466 cubic metres. The greater part of this increase was on export markets. Sales of fertilised peat products increased by over 40%.

Production targets were reached or exceeded for all products, and exports were particularly pleasing at £6¼ million, a record increase of 37% over last year. Exports have increased by 123% in the past five years.

During the year under review, an additional 10,100 acres were acquired bringing the total to 41,500 acres or 88% of the area planned for the Third Development Programme.

Site development and construction work on the new briquette factory at Littleton, Co Tipperary was commenced and init-

IHVN NEWSDESK

ial production of milled peat will start this year.

On the financial side, revenue was up by 19% at £32.5 million. There was a surplus of £531,387 after charging depreciation of £2,983,552 and interest on loans and advances amounting to £1,299,552. The cumulative surplus carried forward to this year is £3,377,722.

Looking at the current year, the report says harvesting weather in the summer of 1978 was not good, but sod peat production exceeded targets and moss peat targets were reached. Milled peat production was somewhat below target, but stocks are sufficient to meet requirements.

Sales demand by the public for peat fuels continues at unprecedented levels, and in the case of briquettes, demand greatly exceeds the production capacity of existing plant. Further proposals for increased briquette production are under consideration which would ultimately raise annual briquette production to 750,000 tonnes.

Sales of peat for electricity generation are below targets in the current year and exports to the UK are being seriously affected by the haulage dispute in Britain. These factors will have an adverse effect on total revenue in the current year which it will not be possible to quantify exactly until the year ends, says the report.

Sir Kenneth Selby (centre) presenting the Westcroft Cup to Gordon Strain (left) of McCaig Collim. Looking on is David Applegate, Technical Director of Curwen and Newbery.

North Man is Top Salesman

Curwen and Newbery's Westcroft Cup for sales effort and achievement has been won by Northerner Gordon Strain of McCaig Collim.

The cup was presented when Curwen and Newbery held their sales conference at Hartham Park, situated a few miles from one of Britains most picturesque villages, Castle Combe. It was attended by sales agents from the Republic, the North, England and Scotland.

Two days of lectures and talks covering energy conservation were rounded off by a concluding speech from Sir Kenneth Selby, chairman, Bath and Portland Group who presented the cup.

Oil Supplies Still Frozen

Householders in Dublin are still finding it difficult to get fresh supplies of central heating oil. One told IHVN that their supplier said there was a

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three-week delay because "we didn't have any anti-freeze in our tanks and it is taking us some time to rectify the situation."

Meanwhile, farmers have been instructed by the Irish Farmers Association to keep a detailed account of losses sustained because of diesel oil freezing in tanks and tractors.

Mr Paddy Lane, IFA president, has said he will be asking the Government to set a standard of specifications for diesel oil that was being sold exclusively on the Irish market made this a serious problem for farmers, particularly when it came to determining their profits over a given year.

New Agency for Cross

Cross Refrigeration Ltd, has been appointed sole agents in the Republic for Revco, an American manufactured range of ultra-low temperature refrigeration equipment.

Revco equipment is especially designed for use in science laboratories, research centres, universities, hospitals, blood banks, and industries where extremely low temperature storage is required.

The range encompasses twelve models, providing storage capacity from 3 - 24.7 cubic feet at temperatures as low as -100°C. It also includes a 17 cu. ft. incubator with a temperature range from 5 - 45°C. A complete range of accessories – from alarm systems, recorder controls, voltage regulators, interior racks, baskets and other compatible equipment – is also available.

Energy Seminar

A one-day seminar on "The Energy Gap in the 80's" will be held at New Jury's Hotel on Thursday, March 22nd.

Principal speakers at the conference, which is sponsored by the Irish Offshore Services Association, include Prof. Peter Odell, Eramus University, Rotterdam and the petroleum advisor to the Rt Hon Wedgewood Benn, M P Papers on "The Energy Gap – The Implications and Opportunities for Business", "The Cost of Financing Energy in the 80's", and "The Need for an Energy Authority" will also be presented.

The seminar fee is £45 and further information and registration forms can be obtained by contacting, the Secretary, Irish Offshore Services Association, Confederation House, Kildare Street, Dublin 2.

Wavin Report Big Rise in Demand

Wavin Pipes Ltd reports a 24% increase in production of its pipe and fittings over the 1977 figure. In addition to its own marketing activities, Wavin attributes the rise in production and sales to the buoyancy of the building industry. There has been a great surge forward in land development during the past year which promises well for extensive building, they add, and the £1,000 grant scheme has also helped the building industry. The indications are that the coming year should generate even greater expansion.

There has also been a big upsurge in group water supply schemes activity, employing large diameter watermains. An equally large upward swing in land drainage is expected under the new EEC assisted grant schemes.

The rise in demand extends over all of Wavin's pipe systems, watermain, sewer etc. There was also a substantial rise in the use of ducting pipes by the Dept of Posts & Telegraphs for its increased operations.

At the H R Holfeld (Hydraulics) Ltd stand at Arabbuild (held in Bahrain late last year) were (left to right): Mr Sean Condon, Chief Executive, Coras Trachtala, Mr Ahmed Hubail, Director of Commerce, Bahrain Ministry of Commerce & Agriculture, Mr Desmond O'Malley, Minister of State for Industry, Commerce & Energy, Mr H R Holfeld, Chairman and Managing Director, Mr Eamon O'Tuaithil, Irish Ambassador to Saudi Arabia, Mr J T Godfrey, Chairman of Coras Trachtala and Mr D P McGonnell, Sales Director. This was Holfeld's first exhibition in the Middle East, and in addition to selling a Holpak packaged cold water booster set for high rise buildings and Holpak packaged fire hose reel booster set, they had subsequent sales in Bahrain, the United Arab Emirates, Kuwait and Saudi Arabia worth more than £50,000.

Hevac Ltd has been awarded the contract for the supply and installation of the boiler flues for the Beaumont Hospital Project. This is one of the largest single Contracts for Boiler Flues in Ireland. Hevac will be using flues as manufactured by Selkirk Metalbestos, which are twinwall, stainless steel flues. The flues will be erected in two modules of three, each protected by a mild steel wind-shield. They are 110' high and of 32" diameter. It is expected that the flues will be fully erected before the end of May, and at that time, they will make an impressive impact on the North Dublin Skyline. Picture shows a typical open mast installation c. Selkirk.

More Peat Power from ESB Order

The ESB have announced that they have placed an order with the British firm of NEI Parsons Ltd of Newcastle-on-Tyne for two condensing steam turbine sets and auxiliary plant. These will form part of the 40 mega-watt extensions to the board's peat-fired power stations at Shannonbridge and Lanesboro. They will increase peat-fired electricity production in the country by about 10%.

A substantial part of the manufacture of t[he] units will be carried out in the NEI Parsons factory at Howth, Co. Dublin. The units are expected to go into service in 1982, at Shannonbridge, and 1983 at Lanesboro.

The ESB have also placed an order for two peat-fired boilers for Lanesboro and Shannonbridge with a consortium of two German firms – Vereingte Kesselwerke of Dusseldorf and F Lentjes also of Dusseldorf. The Irish representatives are H R Holfeld Engineering, Dublin.

Total cost of the new work is about £43 million and about half of this will be carried out with Irish labour and materials.

In April Visit IhVex

The Big Heating & Ventilating / Air Conditioning Refrigeration / Fuel Conservation Environmental Engineering / Pollution Control Exhibition

Dates for your Diary.

APRIL 1979	Engagements
Tuesday 3	11.00 – 18.00
Wednesday 4	LATE OPENING 11.00 – 21.00
Thursday 5	11.00 – 18.00
Friday 6	11.00 – 18.00

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Moving to Simmonscourt

Reflecting its increased scope and significance IhVex 79 moves to a bigger venue in Dublin's newest and most advanced exhibition complex –Royal Dublin Society's Simmonscourt Pavilion.

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Barlo Heating Ltd
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Bartol Plastics Ltd
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Brown Boveri (I) Ltd
S W Carty & Son Ltd
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C P I Ltd
Climavent Ltd
CHS Ireland Ltd
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Calor Gas Irl Ltd
Coolair Ltd
S. L. Combustion Services Ltd
Cross Refrigeration Ltd
Danks of Netherton
Electricity Supply Board
Electrical Engineering Services Ltd
Europair Ltd
Euro Pumps Ltd
Flakt Ltd
Gerkros Boilers (Tipperary) Ltd
James Gleeson & Co Ltd
HR Holfeld (Hydraulics) Ltd
HEVAC Ltd
Heatshield LTD
Hall-Thermotank Irl Ltd
Hi-Jet Ltd
Hammond Ltd
ISAS Ltd
Keltic Marketing
Luwa (UK) Ltd
Manotherm Ltd
McKenna (I) Ltd
Oldmill Ltd
WH O'Gorman (I) Ltd
Pioneer Radiant Products Ltd
Prestcold Ltd
Passat Central Heating Ltd
Quadrant Engineers Ltd
R S L (I) Ltd
Runtalrad Ltd
Refractories of Bailieborough
Solerin Ltd
Sheffield Insulations (I) Ltd
Taney Distributors Ltd
Tradfire Ltd
Walker Air Conditioning Ltd
Weld Moore Distributors Ltd

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New Company for Limerick

Speculation that a new company is about to be formed with the assistance of the IDA in the Limerick area could not be confirmed as IHVN went to press.

It has been widely rumoured that the American company Gage and Machine, a subsidiary of Katy Industries Inc. of Elgin, Illinois, are about to set up a casting project which would initially give employment to about 100 workers, rising to 200 jobs at full production.

The Katy group owns Bach-Simpson Ltd and British La Bour Pump Company in the UK.

Hevac Seal Denco Deal

Harry Speight, Sales Director, Denco Miller and Richard Ackroyd, Export Manager, recently visited Ireland. During their visit they formally signed the agreement with Hevac giving Hevac the sole distribution rights for Denco Miller in Ireland.

Mr Speight also introduced to the Irish market the new DM10 Model, which is the latest addition to the Denco range. The DM10 modular close control airconditioning system was designed with the specific intention of filling a major gap at the top end of the Denco Miller airconditioning product range. The DM10 is built in three de-mountable sections – to enable it to be installed in difficult sites.

In addition, the DM10 has been designed as the basic module of a whole range of units available in capacities which are multiples of its ten tonnes refrigeration capacity; ie DM20, twenty tonnes, DM30, 30 tonnes and upwards.

A major advantage of the DM10 system is that from the outset, the concept has been able to meet all possible non-standard requirements of potential customers from a standard range of units. To date, orders have been received from markets in France, Holland, Saudi-Arabia and Ireland.

Since obtaining the Denco agency some months ago Hevac have supplied Denco equipment to Gypsum Industries and the ESB.

Insurance Claims Record

Several insurance companies contacted by IHVN have confirmed that this year's compensations for burst pipes and flooding damage in households will be an all-time record. Most of the damage was caused by pipes running to attic boilers freezing up and then bursting with the thaw. The claims department for New Ireland reported "thousands of claims" and the Royal Insurance company stated that claims were "unprecedented".

CDL Launch New Ship

A new 1,600 tonnes bulk carrier, the Fastnet Rock, was recently launched by Coal Distributors Ltd.

A sister ship of the Tuskar Rock, the new ship is 200 ft in length and has a summer load draught of 14 ft. Power is supplied by Mirrless diesel with a rated output of 1,650 hp giving her a speed of 11 knots.

The Fastnet Rock is scheduled to come into service in February and will be used mainly for the transport of coal from U.K. and Continental ports. The ship will be a valuable addition to the Irish fleet where the shortage of small tonnage vessels has caused some problems particularly for the smaller ports where handling facilities and shallow berthage limit the size of ships that can be accommodated.

Chief Executive of CDL, Stan Linehan, said that the two ships would meet the company's requirements for small tonnage coal shipments and it had no plans at present for increasing that number. In the old days, he said, most of the companies in the coal trade in Dublin had their own ships. What was a tradition in the past was a real necessity in today's world where suitable shipping was at a premium.

Ridge Tool Move to Cork

Ridge Tool Company of Ohio have set up in Cork to manufacture pipe working tools for the European market, and have started production in an advance factory on an IDA site at Mahon Penninsula. Their operation will include metal machining, heat treatment, painting, boring and grinding. Initial assembly activities started in September, and metal machining commenced in December.

The company produces a large range of pipe tools which cater for almost all aspects of holding, bending, drilling, threading and cleaning of industrial metal pipes. The Ridge Tool Company was acquired in 1966 by Emerson Electric, a diversified St. Louis, Missouri, based manufacturer, which had sales in 1977 of £1,000 million. Further information: Mr. Joe O'Keeffe, Ridge Tool Division, Emerson Electric Co. Ltd., Blackrock, Cork, (Tel: 021 961452).

Redman Fisher Trading Loss

Redman Fisher (Ireland), the Naas steel and aluminium flooring subsidiary of UK engineering concern Redman Heenan, reported a small trading loss in the 12 months to 30 September.

The overall company figures showed an improvement in group profits from £2.53 million to £2.81 million on turnover up from £31.1 million to £34.27 million. But the directors in their report point out that the order intake at Redman Fisher (Ireland) was generally disappointing despite some improvements during the last few months of the year.

However the directors do forecast better things for the Naas factory: "Improvements were made to the factory layout and new plant is being ordered to provide for the expected upturn in the Irish market during the coming year", they said.

Clonmel Order for HTI

Hall Thermotank Ireland have landed a sizeable refrigeration order from Showerings (Ireland) Ltd, Clonmel. The contract calls for the installation of HT's AC Aquachill Duplex Units – Cap 108 TR, the largest in the AC series of packaged water chillers. The plant supplied to Showerings will be used

(Left to right): John D Sullivan, Manager Air Conditioning Division, and John A Hoey, Chief Executive, both of Hall Thermotank Ireland, Harry Speight, Sales Director and Richard Ackroyd, Export Sales Manager, Denco Miller at the signing of the contract.

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in conjunction with a premise unit which will be installed on the new bottling line at the company's factory in Tipperary.

Go Ahead Given for Road and Drainage Schemes

The Departments of Finance and Economic Planning and Development have announced the go ahead for four projects involving improvements to road and drainage schemes in the country.

Money for the projects come from the EEC's Regional Fund Scheme. Under the existing Fund Regulation, the committment of Fund assistance to approved projects does not involve an immediate payment to a member state of the committment amount. Rather it is the authorisation under which the Government may claim payment of Fund aid concurrently with its own expenditure on these projects.

Receipts of Fund aid approved in respect of the assisted projects will not be paid to the individual authorities concerned but will be applied to the financing of additional capital investment in the Public Capital Programme.

The local areas which will benefit from the Funds are Cork Corporation, (Mahon Penninsula Drainage Scheme), Gaeltarra Eireann, (Donegal roads, water and sewerage facilities to facilitate industrial investment at the Industrial Estate, Bunbeg), Laois County Council, (sewerage works at Portlaoise), and Tipperary Urban District Council (town sewage scheme).

The industrial division of Redring Electric provides both standard stock and "one-off" special heaters to industry. This unit is one of a series built to provide a total of 4 mega-watts and heat half a million cubic feet of air per minute for core drying plant in Poland.

New Water Works for South Mayo

The Mayo County Council are expected to announce shortly the awarding of a £6 million contract for south Mayo which includes a new water system to the village of Tourmakeady.

The village, although surrounded by water, has always had severe problems caused by its hilly terrain. Rows of houses are built above each other, and sewerage from septic tanks, which are connected at yet a higher level, is seeping down to contaminate water sources. Though wells were bored to a depth of 120 feet, the supply proved unusable because of the presence of iron traces.

Tourmakeady is one of the most popular tourist attractions in Mayo, and the villagers and tourist interests have been campaigning for some time for an improvement. Work is expected to start in the early spring, and the new supply should be ready in about 12 months time.

CII Chief Attacks Economy White Paper

The director-general of the Confederation of Irish Industry, Mr Liam Connellan, has attacked the Government's White Paper on the economy for reducing the national target for industrial growth in the next few years. He also expressed disappointment at the White Paper's failure to set adequate targets for the improvement of roads, telephones and the services sector.

At a meeting of the Dublin Junior Chamber of Commerce, he said that the target for growth in industrial output had been reduced from 13% in the 1978 White Paper to 11½% in the latest White Paper. As a result 'manufacturing industry is expected to provide only 40% of the additional jobs created in the economy, compared with about 55% in last year's document."

The CII had consistently maintained that the output target of manufacturing industry should be approximately 15% per annum, he added.

While welcoming the broad emphasis given to infrastructure in the White Paper he said that the aim of increasing national telephone density to 23 per 100 population by 1982 from the present level of 15 was "clearly inadequate." The average density in the EEC was about 35 at present, and by 1982 would be 45 per 100 population.

"The slow progress in publishing a "National Roads Plan for the 1980s" and in passing the necessary legislation on toll roads is disappointing. This is clearly the first step in developing the road system", he went on.

"The services sector is a general overhead which must be borne in the cost of the internationally traded goods produced by the productive sector

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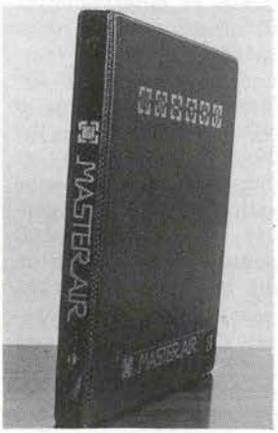
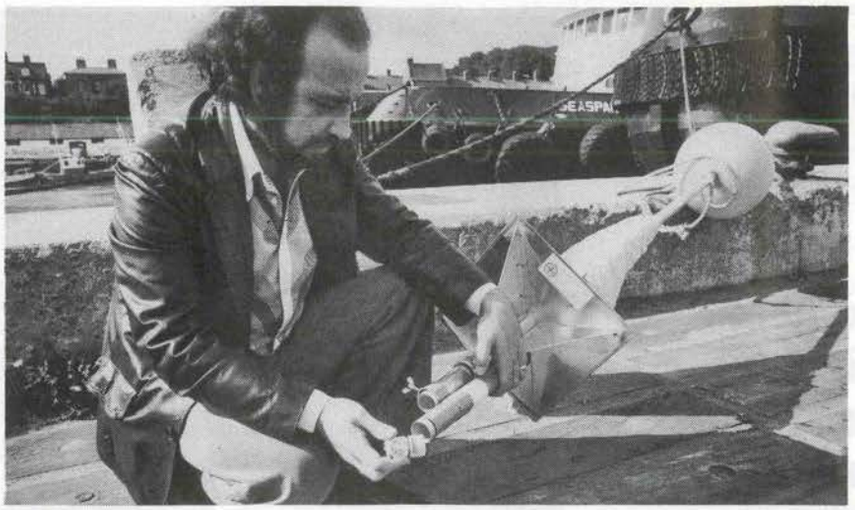
i.e. industry and agriculture Thus, postage, telephones, transport, distribution, finance or public administration costs are reflected in higher charges or taxes on the productive sector companies or employees. It is essential that productivity improvements are made in the services sector as rapidly as in the productive sector."

"Our membership of the EMS would increase the need of narrowing the gap between productivity in the Irish traditional sectors and their EEC counterparts. To facilitate this he called for 75% investment grants subject to a maximum of £9,000 per person employed on the new equipment in these industries. Better financial aids for marketing in the EEC were also needed", he said.



Master Air Co Ltd, the wholly-owned Irish air handling unit manufacturers, announce the availability of their new air handling unit catalogue. For further details see over air conditioning feature.



Standard domestic type Vidor dry batteries supplied by the Vidor division of Crompton Parkinson Ltd, a Hawker Siddeley company, to power a new design of flashing-beacon marker buoy. The buoy has been designed for use by the oil, gas and fishing industries and other offshore applications.

September Date for HI-79

HI-79, the Industries' Technical Fair, which is Scandinavia's largest industrial exhibition and takes place every two years, has been scheduled for 4-8 September this year.

It is being run concurrently with MI-79, whose subject is pollution control and water techniques, and whose product range covers water supply, water and sewage purification, soil, air and water pollution control, and noise control.

More than 60,000 visitors attended the HI/MI-77 exhibitions, where 520 direct exhibitors were representing 1000 companies from 20 countries.

The exhibitions are held in Scandinavia's largest exhibition centre at Herning, centrally situated on the Danish mainland of Jutland. Further information can be had by writing to: A/S Herning-Hallen, DK-7400 Herning, Denmark.

Recycling Technology Get the Green Light

A signal that the Irish market for waste recycling technology could be about to expand dramatically was given last month at a seminar in Cork, entitled "The Potential to Reduce Pollution through Recycling", which, significantly enough, was attended and addressed by no less than three government ministers.

In his opening address to the seminar – at the Silversprings Hotel, Fort William House – Minister for Labour Gene Fitzgerald said that all local authorities have been asked by the Department of the Environment to prepare comprehensive waste management plans. "But," he went on," local authorities have to have regard to the basic economics of recycling schemes, and these are not always as favourable as they might seem on paper. Where recycling is commercially profitable, it is to a large extent catered for by the private sector."

One difficulty on waste, he added, was a lack of complete profile of what waste is generated, what was its economic value, and what could be done with it.

John O'Leary, Minister of State at the Department of the Environment, emphasised that recycling had to be seen not from a pollution aspect alone, but also from the point of view of conservation of resources, energy policies, and the coun-

Water is Blamed for Cylinder Corrosion

An "unusually high percentage" of domestic copper cylinders in the Dun Laoghaire area have been cracking because of corrosive elements in the water supply, according to a report on the subject to be published shortly by Mr Tony Kaye, head of the IIRS metallurgy and materials section.

The problem was first noticed by Mr Kaye in 1966, when part of the cause was due to defects in manufacturing of the cylinders, Mr Kaye says.

Now, it has been discovered that the water supply in the Dun Laoghaire area has caused superficial "pitting" to a considerable number of copper cylinders. This is aggravated by fluctuating stress, which in turn leads to corrosion fatigue and finally to the cylinders cracking.

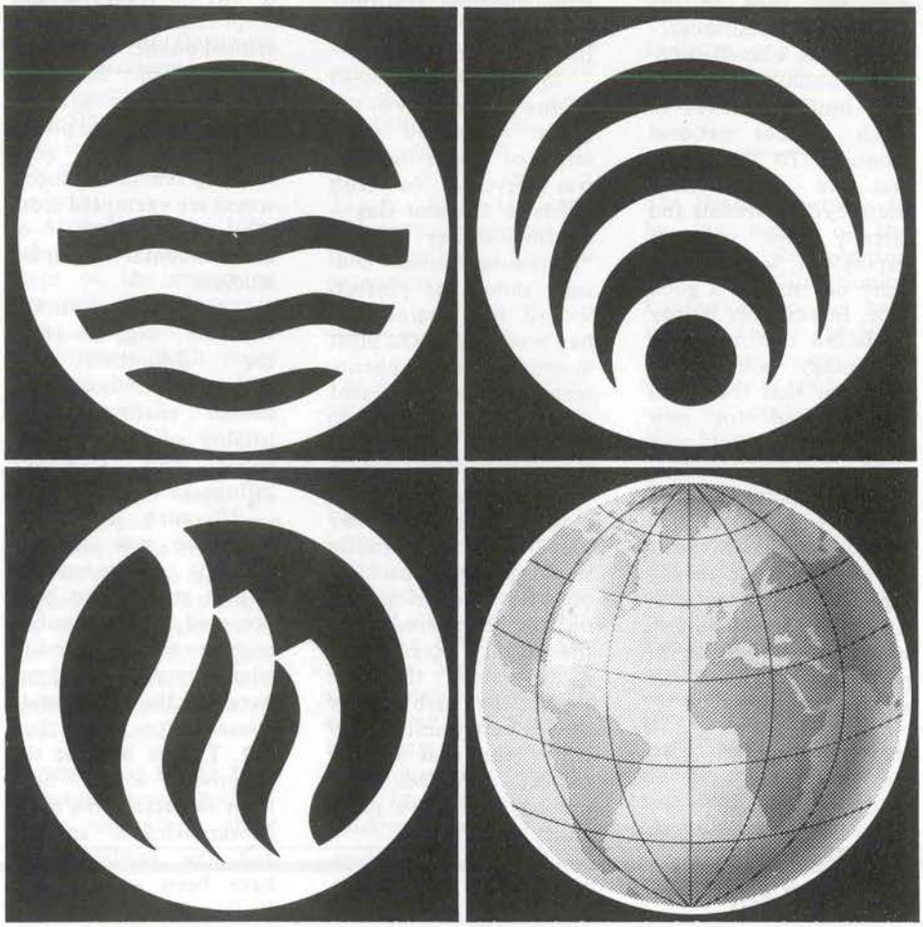
Quick to reassure people living in the Dun Laoghaire area, Mr Kaye points out that the water is completely safe for drinking purposes and that "pitting" of copper occurs when the water supply contains a high level of sulphate and a low level of chloride and nitrate ions as well as a pH imbalance.

"These elements are present in all water supplies, but if they appear in a certain ratio, pitting is likely to occur" he says.

Mr Kaye advises that the best solution to the problem of corrosion is to install a cylinder specially fitted with an aluminium protector rod which will act as a "sacrificial anode" that will corrode before the cylinder.

The rod will allow the copper to develop a protective coating which Mr Kaye believes will prevent any later corrosion of the cylinder itself.

All the World has to offer in the field of Sanitary, Heating and Air-Conditioning Engineering will be awaiting you in Frankfurt am Main



Frankfurt am Main
28.3.–1.4.1979

More than 1,100 fair stands will be waiting for you to show and explain their latest technical developments, product improvements and problem solutions.
The world's largest trade fair for sanitary, heating and air-conditioning engineering will be providing a comprehensive market survey and the best source of information for small, medium and large firms and all those engaged in the field of household engineering.

Related trade sectors, e.g. fittings, measuring and control equipment, swimming pools and sauna, pipes, pumps and tools will be ideally rounding out the range of products featured in the central sectors sanitary, heating and air-conditioning engineering.
Special shows will be giving information on the latest stage of modern technology.

Information: Lep (Ireland) Limited, 11/15 Tara Street, Dublin 2, Tel.: 771861, Telex: 5252 b trnd ei

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IHVN NEWSDESK

try's import-export balances.

He hinted that the full operation of the Water Pollution Act would encourage operators to review the economics of recycling their water-borne wastes, and said work was well advanced in his department in reviewing existing legislation on disposal of industrial, commercial and domestic wastes. "I have no doubt that the legislation resulting from this review will also move the balance of advantage for many firms away from the waste production and disposal towards waste limitation and recycling," he added.

However, he was careful to point that the Government was not embracing the cause blindfold. "If public efforts, or public funds, are to be committed to support or supplement what the commercial interests and voluntary organisations are doing, it must be on the basis that the additional recycling to be achieved is worthwhile on a realistic cost benefit basis."

He added that at the request of his Department, An Foras Forbartha has undertaken a special study of the possibilities for local government involvement in recycling.

In the closing address, Minister of State Pearse Wyse made mention of the inter-departmental environment committee which the Government set up to explore and make recommendations on ways and means of potential recycling. An off-shoot of this was liaison committee between the Department of Industry Commerce and Energy, the IDA and the IIRS, one of the functions of which is to encourage recycling directly related to industrial production.

He also said that on a conservation aspect, it may turn out in years to come that recycling will be the order of the day, even if it is less economic than to use existing fresh resources.

"We are a small economic community with a high import content in much of our national products. To the degree that we can retrieve and recycle materials and thereby save on our import bill, we will have done our nation a good turn. In addition, it may be found that recycling technology will be so extended that there will be potential for new industry and for new employment," he said.

The papers delivered at the seminar covered a wide range of topics relevant to waste recycling. In future editions, we hope to publish several that will be of particular interest to "H and V" readers.

Environment—Is a Wider Meaning Needed?

A suggestion that the term "environment" as defined in the Local Government (Planning and Development) Act 1976, should be widened beyond its purely physical meaning and be brought into line with that used by the EEC, the UK and the US, is made in an occasional paper published by the Irish Planning Institute, entitled "Environmental Impact Studies".

In a Press statement on the publication of the paper — second in a series of which the first was devoted to Irish Offshore Oil and Gas — the Institute say:

"Increasing public concern about the protection of the environment has been one of the most marked social phenomena of the present decade. In response to this trend the Local Government (Planning & Development) Act, 1976 made provision for the preparation of studies showing the impact of proposed development on the environment of the locality. Regulations made under the Act suggest that such a study should be requested only where the cost of the project exceeds £5 million, and has a propensity to pollute.

"There are, however, a number of shortcomings in the present system.

"For example, small projects may cause more serious pollution than larger proposals, the Act does not make the preparation of such studies mandatory but suggests that the planning authority may request such a study; the scope of the study tends to be limited to pollution (of the air, water, etc.) and omit economic or social impacts and finally since the study is to be prepared by the developer, it will be regarded with scepticism by an already critical public.

"It should be noted that major projects undertaken by the planning authority (e.g. housing schemes, motorways) are exempted from the preparation of environmental impact studies."

The paper, says the Institute, suggests that the definition of the term "environment" should encompass the totality of the physical, social and economic influences.

"If such a broader definition was adopted and if environmental impact studies had been prepared, then the public response to recent industrial proposals would not have had the unfortunate consequences which they did. This is because the proposals would have been subjected to a more comprehensive analysis and the public would have been assured that their concerns had been accommodated by the planning authority."

Copies of the paper are available from: Irish Planning Institute, c/o Dept. of Town Planning, University College, Earlsfort Terrace, Dublin 2.

L.D.G. Collen, Director, Collen Brothers (Dublin) Ltd, and P.A. McCormack, Managing Director, Alumina Contractors Ltd, signing a new £10 million contract at Aughinish.

Symposium on Energy Saving

The British Institute of Domestic Heating and Environmental Engineers (IDHE) are holding a conference and symposium on Energy Saving, at the Marine Engineers Conference Centre, Mark Lane, London, on Thursday 29 March.

The symposium will concern itself with many aspects of energy saving, and investigates the advantages of new techniques and equipment, at the same time considering the profitability for the industry and cost-effectiveness for the user.

Among the papers to be delivered are: Alternative Energy Options (given by Hugh Maguire, FIDHE); Solar Energy for Domestic Heating; Air Conditioning Economics; Heat Pump Developments; Heat Recovery Methods.

For those interested in attending, full details can be had from: Conference Organiser, IDHE Conference, 93 High Road, Benfleet, Essex.

New Board for An Foras Forbartha Announced

Mr Sylvester Barrett, Minister for the Environment, attended the first meeting of the new Board of Directors of An Foras Forbartha. The Minister has appointed the new board for a period ending 31 December 1981.

Mr Barrett stated that the success of An Foras over the years could be attributed to the dedication and committment of its directors, and he looked forward to continuing progress under their guidance during their three year term of office.

Appointed to the Board were:

Colm O'Doherty (Chairman), Assistant Secretary, Department of the Environment; James Barry, Chartered Architect, Cork; Dr John Barry, Principal, College of Technology, Bolton Street, Dublin; Brendan Cassidy, Manager, Regions and Technical Services Division, Industrial Development Authority; John Cassidy, County Manager, Cavan; Robert

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Fenlon, County Engineer, Meath; Austin Jennings, Consulting Engineer, Sligo; Noel McDonagh, Quantity Surveyor, Dublin; Timothy McEvoy, Chief Inspector of the Forest and Wildlife Service, Department of Fisheries and Forestry; John McKone, Builder, Honorary Secretary of the Construction Industry Federation; Shelley McNamara, Architect, Department of Architecture, University College, Dublin; James O'Connor, Chief Engineering Adviser, Department of the Environment; Derry O'Donovan, Agricultural Adviser, Regional Office, Allied Irish Banks Ltd, 3 High Street, Kilkenny; and Richard Stringer, Deputy Chief Adviser, Department of the Environment.

The appointment of a nominee of the Irish Congress of Trade Unions is to be settled.

Briefly

The fifth Irish Hardware and Housewares Trade Fair, sponsored by The Irish Hardware Association, is to take place in the RDS from October 9 - 11th.

According to John Palmer, Managing Director of the organising company, bookings are going well and "we are quite happy with progress and the way the Fair is shaping up."

The gremlins seem to have slipped into our December issue en masse, and we'd like to take this opportunity of apologising to Hugh Siddall for the numerous typographical errors which appeared in his article.

Belfast Cold Stores Ltd, Duncrue Street, Belfast, have expanded their store by 150,000 cubic feet. This is the fourth time in recent years that the company have expanded. Total capacity of the store is now 750,000 cubic feet, sufficient to hold about 5,000 metric tons at 22 F. SOH (Iceflow) Ltd were responsible for the designing of the new extension.

The Energy Show, sponsored by the Institute of Fuel, will take place at the National Exhibition Centre, Birmingham from 19-25th, February. Goods and services from more than 150 manufacturers will be on display. In conjunction with the exhibition, the Institute are organising a conference devoted to equipment and techniques currently available for conserving energy. Daily lunches, with guest speakers from the British Gas Corporation, the National Coal Board, the Confederation of British Industry and the UK's Atomic Energy Authority, are also planned.

The Heston Centre is to be the venue of the London Refrigeration and Air Conditioning Exhibition to be held from April 24-26th. Admission is by registration only and forms can be obtained from Mrs Mary Dunmill, PO Box 109, 69-77 High Street, Croyden, Surrey.

The show is sponsored by the London Refrigeration Society and the magazine "Refrigeration and Air Conditioning."

IHVEX – the Irish Heating, Ventilating, Air Conditioning, Refrigeration, Pollution Control, Environmental Engineering Exhibition will be held in the RDS Simmonscourt Complex from April 3 to 6th. Our next issue will carry a full preview of the show which promises to be at least twice the size of the 1977 exhibition.

Death of Pat Peppard

Pat Peppard, 38, of Rodol was killed in a car crash on January 18th. He is survived by his wife Charlotte and three children.

Well known in Ireland, Mr. Peppard was a leading authority on water treatment, specifically on shell boiler applications, and will be sadly missed by all in the trade.

PEOPLE

Mr Declan A O'Donnell has been appointed Managing Director of P J Matthews Ltd, the builders providers subsidiary of Abbey Ltd.

He joined the company in 1971 and was appointed finance director in 1975. He succeeds Mr J P A McHugh who has been appointed managing director of the Irish division of Abbey.

Recent changes within the Cork Gas Company include the appointment of Mr Michael Murphy as General Manager, Mr John Potter Cogan as Company Secretary, and Mr David O'Donovan as Chief Financial Accountant.

Reconair Ltd have recently announced the appointment of Mr Thomas Fleming (28) as Sales Manager. Mr Fleming joins the company from Stephenson Associates and Walker Air Conditioning. Mr Damian Dunne (30) also joins the sales department – as Sales Representative.

Concrete Products of Ireland Ltd have announced the following appointments:

Mr J F Malone, BE, MBA, Director, Marley Extrusions (I) Ltd and Marley Flooring and Plumbing Ltd, has been appointed a director of Concrete Products of Ireland Ltd.

Mr J F Malone

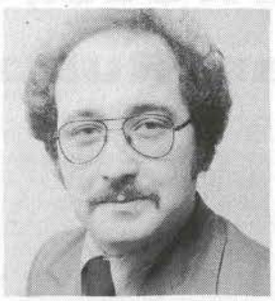
Mr G C Eyre, Flooring Sales Manager has

Mr G C Eyre

been appointed a director of Marley Flooring and Plumbing Ltd.

Frank Caul of Temperature Control Services Ltd is now based in Cork, and will cover the Munster area. He will be responsible for all service in this area. All service calls should be routed through Temperature Control Services head office in Dublin pending the opening of a Cork office. (Tel: 512634).

Due to recent expansion W H O'Gorman have recently made three new



Mr M Kelly

appointments in their engineering and planning sections.

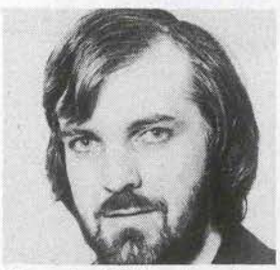
Mr M Kelly has been appointed Services Manager with full responsibility for installation, maintenance, and services. Mr Kelly has been in

Mr K Halpenny

the refrigeration industry for the past 12 years and has practical experience of most types of applications. The company's new Chief Project Engineer is Mr K Halpenny, BsC, MIE who will be responsible for planning and project management covering both domestic and overseas developments. Mr

Mr T McGrath

Halpenny has been in Project Management in RTE and also was involved in the development of a telecommunications system in Spain. In the sales area, Mr T McGrath has been appointed Commercial Sales Engineer. He will be responsible for the company's range of consumer and commercial products with particular regard to Keep-Rite and Norcool.



Vincent Ceillier has been appointed to the board of directors of Temperature Control Services Ltd. Mr Ceillier, who also assumes the position of company secretary, has been financial controller with TCS since 1977.

TIME WAS

15 Years Ago

From the Irish Plumber & Heating Contractor (now IHVN) February 1964

CLEAN AIR BILL IN STORMONT

A BILL designed to reduce air pollution was tabled at Stormont last month.

In two main sections, part one of the Bill makes provisions relating to dark smoke, the installation of new furnaces, grit and dust, height of chimneys and general smoke nuisances.

The second provides—at the discretion of local authorities—for the introduction of special measures of control for areas to be designated "smoke control areas."

Grants to owners or occupiers of private dwellings who incur expenditure in adapting their heating or cooking arrangements are also provided for in the Bill.

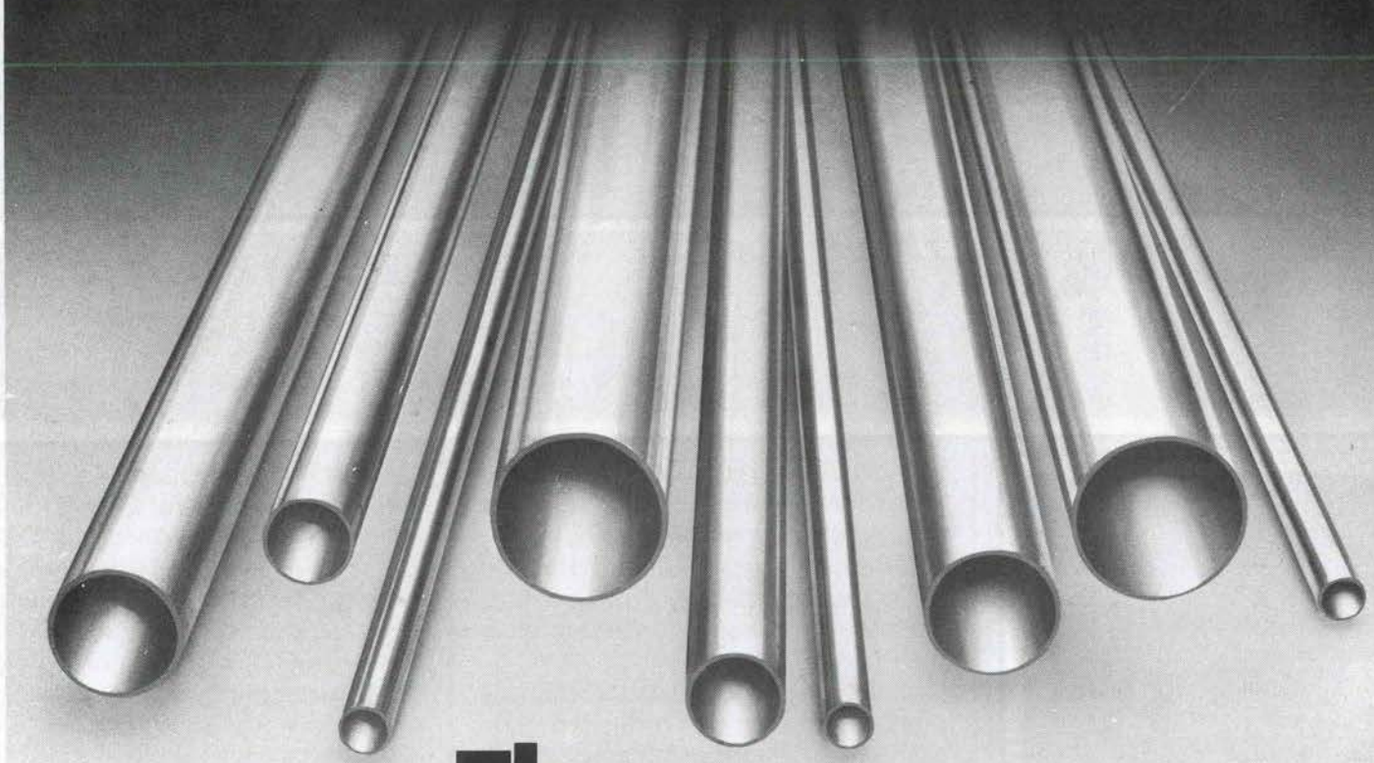
* * *

FOLLOWING negotiations with the Northern Ireland Ministry of Commerce, which have been taking place over the past few months, it has been announced that Gambles (Belfast) Ltd. are to commence the second stage of their major expansion programme, introduced in 1960.

Plans being prepared at present will give a total floor area of 48,000 sq. ft., a working area which will eventually provide employment for 250.

Gambles, who were first established in Belfast over 100 years ago, are a completely locally owned firm whose interests are solely connected with steel.

Any pipe, any place



Thorsmans cover them all.

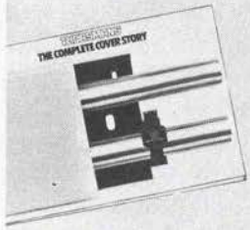
Now there's TRL 56. Specifically designed for 15mm central heating pipes, it's the perfect addition to Thorsmans comprehensive range of trunking systems. TRL 56, TRL 76 and TML are the perfect covers for any pipe from 6mm to 28mm. If you're fixing pipes, there's a trunking from Thorsmans to suit you.

Thorsmans Pipe Trunking Systems. They're safe. Durable. Smart. With an attractive white, self-extinguishing PVC cover, tested to withstand pipe temperatures up to 85°C.

Thorsmans Pipe Trunking Systems. Inexpensive and versatile. Easy to install. Make maintenance simpler, and can cut costs by up to 50% on traditional "boxing-in" methods.

Thorsmans Pipe Trunking Systems. Perfect economical covers for the full range of piping.

Why don't you try them?



Please send me the full story on Thorsmans Pipe Trunking Systems

Name .....

Position .....

Company .....

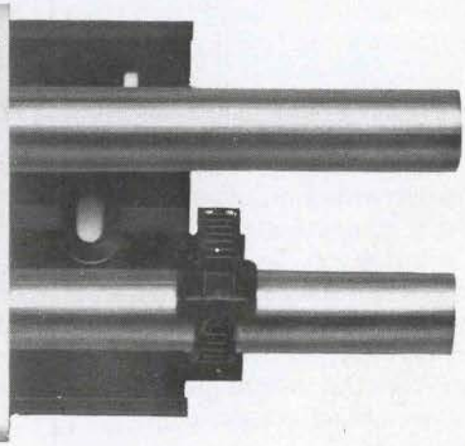
Address .....

..... Tel No. .....

Thorsman & Co. Ltd., Sales Dept., Industrial Estate, Donore Road, Drogheda, County Louth. Tel: Drogheda 36.

THORSMANS

Flexibility in trunking



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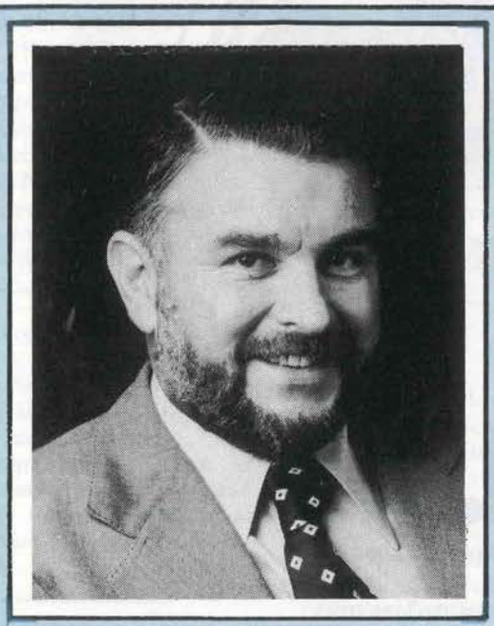
EMS ~ WHA TO YOUR



John Stanley, General Manager and Director Corporate International Division, Bank of Ireland.

John Stanley, Bank of Ireland, spoke recently in Dublin to a group of industrialists on the EMS. An edited version of his comments is given below.

The problems related to a break in the parity of the Irish Pound and Sterling is a challenge peculiar to Ireland which has left us better informed than perhaps any other country in Europe.

The initiative on the European Monetary System stems from the fact that the growth rate in the European Community since the recession has been very low. The reasons given for the reluctance to reflate are twofold:—

(1) Countries with revaluing currencies will not reflate because it will increase their rate of inflation and make them less competitive.

(2) Countries with devaluing currencies will not reflate, because of increasing balance of payments deficits which would further devalue their currencies.

Stable and inter-related exchange rates should enable co-ordinated economic re-flationary policies throughout the EEC, it is reasoned.

The EMS is envisaged to create greater stability, thus reducing risk and uncertainty and encouraging trade and investment. The creation of one large market is judged to have the advantages of specialisation and volume production.

Low rate of price inflation should ensure that industrial profits may be used for expansion rather than additional working capital to manufacture the same volume of goods. Low inflation would additionally reward productive effort rather than the fact of ownership of appreciating assets such as land or buildings. Stabilised exchange rate policy should lead to a convergence of inflation rates and perhaps more co-ordinated economic policies.

On the practical considerations of a break in parity with Sterling, a natural starting point is Exchange Control — already with us and creating administrative headaches for companies and also for the banks. Exchange control is a reality notwithstanding that there is as yet no break in the parity with Sterling.

The major areas of business affected by Exchange Controls already introduced are: Imports and exports and underlying financial arrangements; Accounts in the Republic of Ireland of United Kingdom residents; Accounts in the United Kingdom of Irish residents; Foreign borrowing — particularly from UK sources; Portfolio investment; Direct investment; Personal capital movements; Purchase of personal property; Forward Cover.

IMPORTS/EXPORTS

Exchange control forms must now be completed in respect of imports from and exports to the UK. The relevant exchange control forms in respect of payments to all countries for current trade payments need only be completed for amounts exceeding £10,000 or the foreign currency equivalent. Documentary evidence of indebtedness is required in respect of any amount exceeding £100. The relevant documentation is: E3 forms for payments for imports of goods; E4 forms for payment of services; Declaration A forms for export.

ACCOUNTS of UK RESIDENTS

Accounts in the Republic of Ireland of residents of the United Kingdom will now be designated "external accounts." All deposits to such accounts may only be made in accordance with normal exchange control regulations governing existing external accounts. Balances on the accounts may only be transferred to other locations within the Republic or the United Kingdom.

Individual credits in excess of £50,000 to all external accounts irrespective of the country of

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T IT MEANS BUSINESS

residence of the account holder require the specific approval of the Central Bank. Permission to effect such credits should be applied for through a bank and requires completion of the new Central Bank form NR1.

Irish residents holding accounts with banks or other financial institutions in the UK are required to close such accounts within three months from 18 December, 1978. Within this period, such accounts may not be used to acquire securities or property outside the State or to make other capital transfers to non-residents of the State. The balance on each such account must be converted to Irish Pounds through an authorised dealer e.g. a bank in the Republic of Ireland.

Borrowing abroad by Irish residents are subject to exchange control approval. This includes borrowing from the UK.

PORTFOLIO INVESTMENT

Resident holdings of all foreign currency securities (including UK securities) may be sold only to non-residents. Where such securities are sold, the proceeds must either be re-invested or repatriated within two months. During this period, the proceeds must, in the absence of the specific approval of the Central Bank, be held under the control of an authorised dealer i.e. bank or stockbroker.

Purchase of foreign currency securities (including UK securities) apart from the switches referred to above will not be allowed. The Central Bank, however, will be prepared to consider applications from institutional investors to borrow foreign currency for portfolio investments.

Existing rules for the supervision of direct investment in the EEC will now apply to the UK.

Existing rules for the supervision of personal capital movements to the EEC will now apply to the UK.

Existing rules for the supervision of personal purchase of property in the EEC will now apply to the UK.

FORWARD COVER

The Central Bank has agreed that the commercial banks may provide forward exchange cover Irish Pounds/Sterling for commercial transactions on normal trade terms. The banks have delegated authority to approve amounts up to £50,000. Amounts over £50,000 require the specific authority of the Central Bank. Forward exchange cover is provided at par. The only cost attaching is an administrative charge of ¼% per annum.

PARITY

The existing rate of exchange between the Irish Pound and the Pound Sterling is expected to continue for a few months at least.

. . . . "a break in the parity of the Irish Pound and Sterling is a challenge peculiar to Ireland . . . .

EMS - WHAT IT MEANS TO YOUR BUSINESS

This expectation is based on comments made by spokesmen of the Irish and UK governments but, in the final analysis, the rate of exchange will be determined by the performance of Sterling as against the EMS currencies.

The possibility of a change in this rate of exchange, even in the very short term, is a very real one and companies should take steps now to ascertain the effect on them of such a change and plan how to deal with this effect. The assessment of exchange risk exposure is of paramount importance.

Firstly, it is necessary, for any company dealing in Sterling, to determine the currency in which assets and liabilities are denominated or are receivable or payable. This is particularly important in the case of monetary assets and liabilities i.e. items which represent fixed amounts of money receivable or payable. Therefore, it is necessary to establish the currency in which future transactions are to be settled. This will require the examination of contracts entered into in the past and contemplated in the future so as to determine the currency of settlement.

The following is a check list of the areas of your business which with advantage, might be examined. With regard to the commercial activities of your company and referring specifically to the sales and marketing function you should:

(1) Check existing invoices for references to currecny, confirmation of order forms, tender bids, receipt books, quotations, terms of trade, price lists, etc.

(2) Sales contracts, agency, licensing and royalty agreements should be checked, particular attention to be paid to price, freight, penalty and discount clauses.

(3) It may be advantageous to include on documentation a clause on terms of trade which would clarify all references to currency. For example, a clause along the following lines might achieve the necessary objective.

"All references to Pounds on company forms and correspondence mean Irish Pounds (or Sterling as the case may be) unless expressly stated otherwise."

New contracts should specifically state the currency of payments under the contract. Clarification should be sought with parties to existing agreements and contracts as to the currency of the contracts.

With regard to the purchasing and ordering functions, existing order forms should be checked for references to currency. Existing suppliers' terms of trade should be examined and clarified. The relevant clauses in purchase contracts, maintenance and servicing agreements, contracts for the building of a plant or buildings, sub-contracts, agency, licensing and royalty agreements should be examined. Warranties and performance bonds should be looked at to ascertain the settlement currency.

Other miscellaneous agreements such, for example, as joint venture and partnership agreements with parties outside Ireland should be examined and clarification sought where necessary.

ADMINISTRATION

It would be worthwhile to check the following areas:

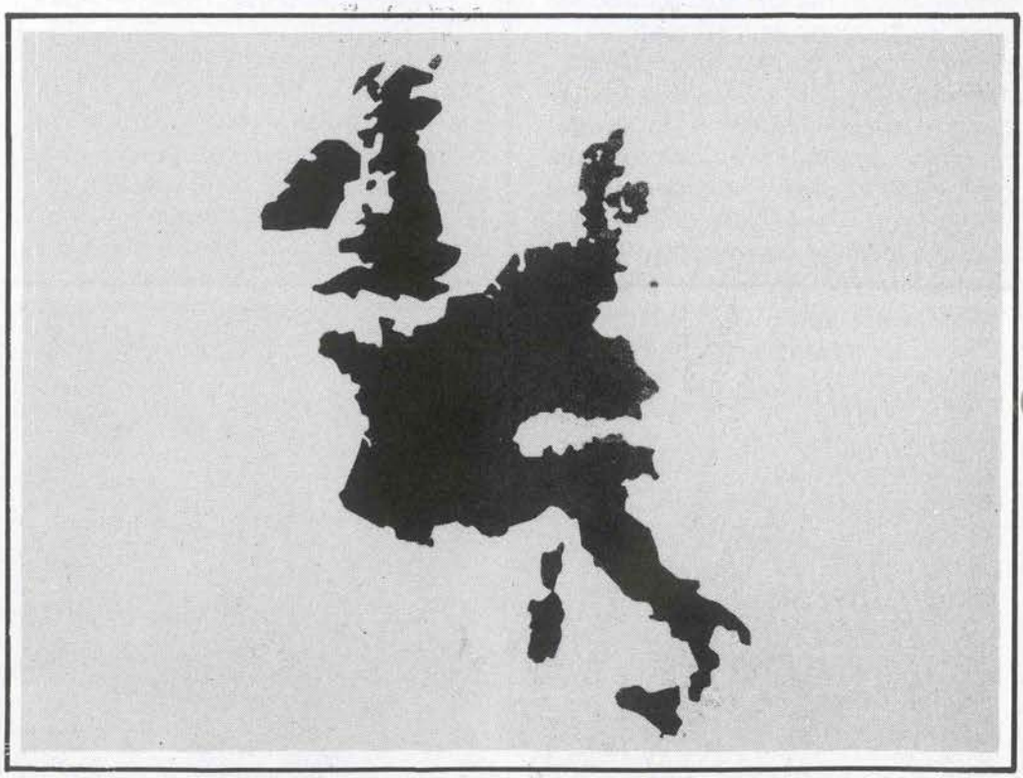
Personnel: Where personnel are based outside the State but paid from the State, the question of currency will require clarification.

Insurance: Settlements under policies with UK based insurance companies will probably be designated Sterling, though there may be some doubt as to the currency of the premiums.

Memorandum and Articles of Association may require amendment.

Shareholder agreements should be examined and clarified.

Dividends paid by an Irish



Countries involved in the new EMS regulations

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DOI: 10.21427/D7N99M

registered company will have to be designated in Irish Pounds (assuming, of course, the Share Capital of the company is in Irish Pounds).

To quantify properly the financial implications for your company and to access any currency exposure or imbalance, it may be necessary to produce a balance sheet extended under Irish Pounds and Sterling. In this regard, the following comments may be helpful.

(a) Fixed Assets and Stocks located in the UK should be treated as Sterling assets.

(b) The currency of an investment asset will normally be determined by its location.

(c) Debtors will require review. UK or foreign customers may find Irish Pound invoices unacceptable. Debtors located in the UK might be classified as Sterling assets.

(d) Deposits in Northern Ireland are usually classified by the banks as Sterling.

(e) In an analysis of creditors, UK creditors may be assumed to be Sterling liabilities. It may be worthwhile to discuss this with UK creditors who may be willing to denote their invoices in Irish Pounds.

(f) All banking facilities should be examined to ascertain the currency of the facilities and if they provide for options on currency.

(g) All leases should be examined particularly those from UK lessors.

(h) Loan stock agreements and trust deeds should be examined.

(i) The currency of loans to or from parent companies and subsidiaries should be clarified.

The accounting impact of a break in parity is also worthy of consideration. For as long as the Irish Pound maintains parity with the Pound Sterling, the entry of Ireland into the EMS will have no real accounting impact. However, if as appears likely, the Irish Pound breaks parity with Sterling at some future date, there will be a substantial accounting impact on all companies which carry on trade with the UK.

Many of these companies will be taking part in foreign currency transactions for the first time and it is essential that they take the necessary steps as soon as possible to develop the procedures necessary to account for and control these transactions.

With regard to bookkeeping, as already mentioned, if it is desired to determine the foreign exchange risk to which a company is exposed, the Sterling assets and liabilities of the company and especially debtors, creditors and other monetary items, should be segregated from other assets and liabilities. It will also be necessary to identify Sterling assets and liabilities for the purpose of translating the sterling values into Irish Pounds when preparing accounts.

Having established the currency in which transactions are effected, the principal bookkeeping decision will probably be the determination of the most appropriate method of recording sales and debtors. If, as is likely, UK customers require to be dealt with in Sterling, consideration will have to be given to such matters as:

(i) whether the records of transactions with these customers should be maintained in Sterling only;

(ii) whether permission should be sought to maintain a Sterling bank account; and

(iii) if separate Sterling records are not kept, whether the adoption of a standard rate of exchange between the Irish Pound and the Pound Sterling would facilitate record keeping.

Where a company enters into a transaction in Sterling and a movement in the rate of exchange occurs between the transaction date and the date of the payment or receipt of cash in respect of the transaction, a difference on exchange will arise. The purchase or sale of goods on credit and the payment or receipt of cash in respect of the purchaser or sale are normally regarded as separate transactions and therefore any difference on exchange is separately credited or charged to profit and loss account as a profit or loss on exchange.

With regard to the prepartion of accounts, should a break in parity occur it will be necessary for any company holding assets or liabilities denominated in Sterling to translate these amounts into Irish Pounds for the purpose of preparing its management or annual accounts. For companies which have neither subsidiaries nor branches operating in the UK, the translation procedure will be relatively simple as their assets and liabilities will probably comprise debtors and creditors only.

Where this is the case, these amounts should be translated into Irish Pounds at the rate of exchange ruling on the date to which the accounts are made up, and the differences between the translated amounts and the previously recorded amounts are normally charged or credited separately to profit and loss accounts as losses or profits on exchange.

For companies with subsidiaries or branches located in the UK, the situation will be more complicated as it will be necessary to translate the accounts of those entities for consolidation or incorporation into the accounts of the Irish company. This subject is dealt with in Exposure ▶

If as appears likely, the Irish Pound breaks parity with Sterling at some future date, there will be a substantial accounting impact on all companies which carry on trade with the UK.




EMS - WHAT IT MEANS TO YOUR BUSINESS

Draft 21, "Accounting for Foreign Currency Transactions," issued by the Accounting Standard Committee, which suggests the use of either of two methods, the "temporal method" and the "closing rate method."

Each company will have to decide which of these methods is most appropriate to its circumstances and adopt that method as its accounting policy — of course, the policy should be applied to both management and financial accounts.

TAX

Comment on the tax treatment of exchange difference may also be useful. Irish tax legislation is, in general, silent on the treatment of profits and losses on exchange. Current practice is based mainly on case law and follows UK Revenue practice closely.

Exchange differences which arise on circulating capital account (from, for example, sale of goods or purchase of trading stock) are treated as normal trading profits or losses for tax purposes. On the other hand, differences arising on transactions connected with the permanent capital of a business may or may not give rise to allowable losses or to gains which are taxable.

Some specific problem areas which may be encountered if parity with sterling ceases are for example, the question of relief for losses on foreign currency borrowings.

A tax deduction for exchange losses realised on the repayment of foreign currency borrowings is available if the borrowings are regarded as being on circulating capital account. For example, an exchange loss realised on the repayment of short term borrowings used for the finance of seasonal trading stocks would be decided as a normal trading loss.

However, a tax deduction does not appear to be available for exchange losses realised on the repayment of loans which form part of the permanent capital of a business. Most long term loans would be regarded as permanent capital. In general, exchange losses on loans for the purchase of fixed assets are not deductible, and do not form part of the cost of assets for tax capital allowances.

The question of taxation of gains on foreign currency borrowings may also be of interest. Exchange gains arising on repayment of borrowings which form part of the permanent capital of a business are in general not subject to income or capital gains taxes. Exchange gains resulting from the use of normal trade credit are in general taxable as trading receipts.

The gains or losses arising from the holding of foreign currency bank balances are also likely to be treated as trading gains or losses in businesses where the funds represent circulating capital. Such gains or losses, if not brought in for income taxes, may have capital gains tax implications.

AMENDED LEGISLATION

At present foreign currencies are chargeable assets for capital gains tax with an exception in the case of sterling. The legislation may be amended to remove the exemption for Sterling after entry into the EMS.

Exchange gains or losses arising on the realisation of foreign currency balances give rise to taxable capital gains or allowable capital losses if not within the scope of income taxes. The holding of foreign currency for a period prior to its use in a business may, therefore, have capital gains tax implications should exchange rates fluctuate during the period of ownership.

In certain circumstances, there may be capital gains tax implications if foreign currency borrowings are held for a period without conversion to Irish Pounds and are subsequently repaid to the creditor.

With regard to UK investments capital gains tax on the disposal of UK investments will be computed by reference to the Irish Pound value of the proceeds. Based on the Capital Gains Tax (Amendment) Bill 1978, indexation relief will provide protection from the taxation of paper gains as reflected by inflation in Ireland during the period of ownership of the asset subsequent to 5th April, 1974.

Exchange gains which are directly associated with the export sale of qualifying goods are likely in practice to qualify for export sales relief in the case of export relieved companies. Generally, in reviewing their exposure to foreign currency fluctuations, companies should consider the taxation aspects of gains and losses on exchange.

In summary, the transactions which are most likely to have important implications for tax purposes are:

Foreign currency borrowings for permanent capital requirements.

Purchase of fixed assets in foreign currency.

Holding of foreign currency balances.

Early consultations with your accountants are recommended to clarify the tax implications of all aspects of your business in the event of a break in parity.

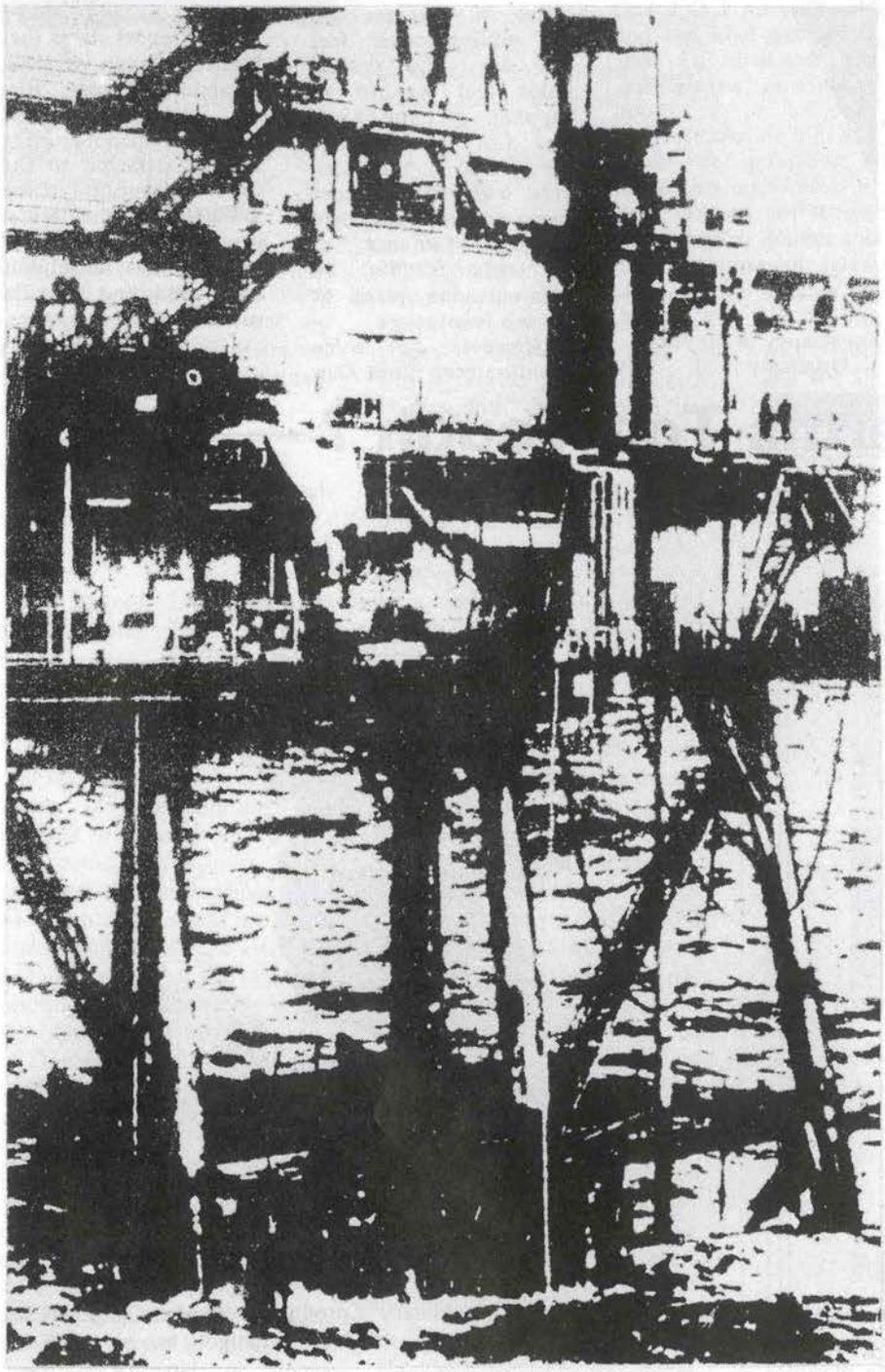
VITAL TO PREPARE

The EMS will become a reality, and a break in the parity with Sterling is a likelihood, sooner rather than later. However, it does appear that the Franco German problems related to the Common Agricultural Policy of the Community may be rather more deep-rooted than was originally envisaged. It may take rather longer than a few weeks before EMS becomes a reality. In the meantime, it is vital to use the opportunity to examine all aspects of your business and ensure you are fully prepared.

DOI: 10.21427/D7N99M

OIL EXPLORATION

Oil exploration in Ireland dates back to 1959 when the Government granted Ambassador Oil, an American consortium, a license. In 1962/63, six wells were drill on-shore and three years later (in 1966) the license was bought by Marathon. Off-shore drilling commenced in 1970 and, in 1974, the first well was discovered off Kinsale. Since then several companies, both international and Irish, have been given licenses to drill. Just what 1979 might have in store for them, and the problems the companies concerned are encountering are discussed in the following two articles . . . .



Ireland An Energy Province Say Bank

Between six and nine oil wells will be drilled off Ireland's coastline this year according to an Allied Irish Banks report organised by the bank's development division.

The report states that with exploration on-shore and off-shore this year at an unprecedented high, gas beginning to flow from the Kinsale Gas Field, and with the possibility of oil and uranium being discovered in significant quantities, Ireland is fast approaching the status of an "energy province".

The report also mentions some of the options that the Department of Industry, Commerce and Energy would like to see the industry turning their attention to, particularly in areas that would create a national oil company, a new oil refinery, a smelter, mineral owner legislation, and the redirection of our natural gas resources.

While the number of wells to be drilled this year is down on the 1978 figure, the report says this is not a sign of lack of confidence. The main reason was that many of the companies involved in drilling chose to use their options in 1978 rather than 1979.

For next season, there are five wells which have to be drilled as "commitment" wells. There are also one or two option wells which could be drilled in a last minute exploration push by Marathon and Esso. Amoco, BP, Chervon, Elf and Gulf each have to drill one well this year under the terms of the licences issued to them by the government, and this according to the report gives five "bankers" for the forthcoming season.

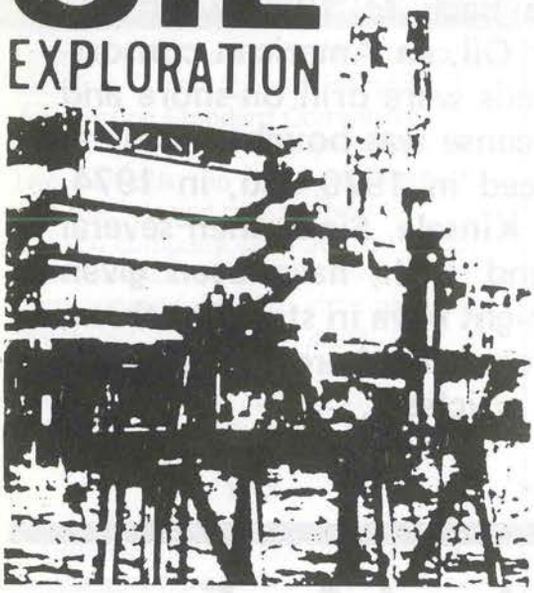
Amoco, in a new group formed with Ara, BP, Century, and Sceptre, this year took an option on two blocks in the South Porcupine. Two companies in the old group, Fina and Saga, have dropped out.

Marathon and Esso have until the spring of 1980 to drill wells in any blocks they wish to retain after that date. This effectively means that any exploration drilling will have to be carried out by the two companies this year.

Under the terms of the Marathon Licence (which also devolves to Esso through the farm-out) leases are granted on all blocks in which a well is drilled.

In 1980, the two companies have to give up any blocks not held

OIL EXPLORATION



under lease. In the case of Marathon, the number of blocks not under lease is 19, and Esso have 38 blocks unexplored. It is not yet known what drilling the two operators intend to carry out next year.

Esso sought to farm-out six of its blocks earlier this year and negotiations continue with at least one company, BP. Two of the blocks being farmed-out, 56/14 and 56/15 are already held under the lease and are unlikely to have any bearings on 1979 activity.

The terms of the offer are such that the farmer must drill one well, this gains the option to drill another well in another block, and so on until all six wells have been drilled.

However, the first four blocks, 56/8, 9, 10 and 13, will have to be drilled before the expiry of the licence term in the spring of 1980. So the Esso farm-in could mean an additional one to four wells, but it should be remembered that the results of the first well will seriously affect decisions on future drilling. BP has shot seismic tests over one of the blocks on offer.

KINSALE FIELD

The report states that although Bord Gais received its first deliveries of natural gas from Marathon on 1 October, 1978, the field has not yet reached its full production capabilities, expected to be about 125 million cubic feet.

According to Marathon, the estimated reserves of the gas field are one million trillion cubic feet, the equivalent of 40 million tons of coal, and should have a life expectancy of 20 years.

Originally it was decided that the gas would be used for ammonia-urea feedstock, electricity generation, and domestic consumption. But in April 1978, the Minister for Industry, Commerce and Energy requested the Industrial Development Authority and Bord Gais to seek alternative industrial users for that part of the gas previously allocated for electricity generation.

This allocation to the ESB was controversial when first announced, as it was generally acknowledged that this use of natural gas was not the most efficient.

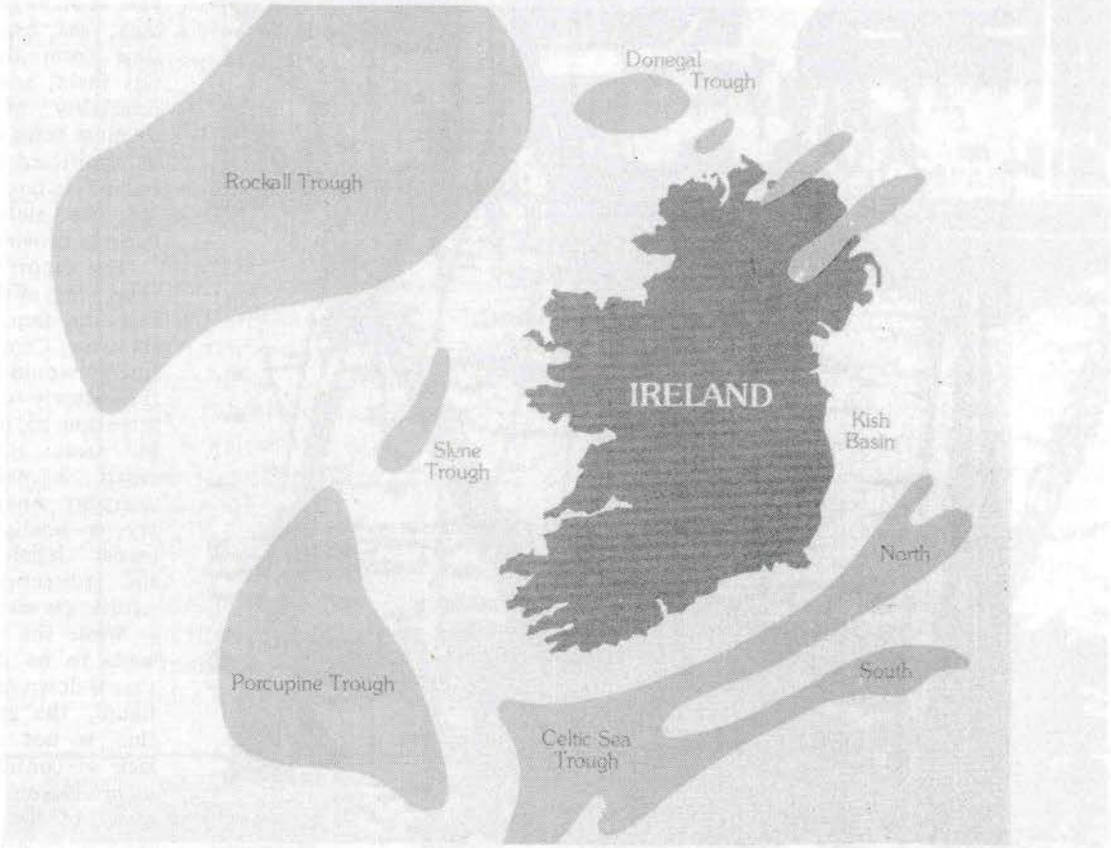
The ESB's original share of the gas was 72 million cubic feet per day. Five million cubic feet was to be supplied to the Cork Gas Co. for domestic consumers in the Cork area, with the remainder being supplied to Nitrigin Eireann Teoranta as a feedstock for an ammonia-urea plant at Marino Point, Cork.

However, for some months, both Bord Gais and the IDA have been actively marketing the gas both at home and abroad in the hope that it will attract gas consuming industry to the Cork area. When suitable customers are found, the ESB's share of the gas will be progressively reduced, with imported oil taking the place of the gas originally earmarked for electricity generation.

The ESB now has a "dual fixed interuptable contract" whereby gas can be supplied for the "peak sharing period" but not for base load supplies. Generation of the normal base load supply will have feedstock other than natural gas.

The report states that industries such as glass, ceramics, pottery, tiles etc, metal processing and food manufacturing can be attracted to the Cork area because of the availability of the natural gas, which has a purity of 99% methane, no sulphur compounds and is ideally suited to these industries.

Are Our Terms Too Tough ?



The terms Ireland offers to oil exploration companies are too tough, and will not stand the test of competition in 1979, when funds for exploration will be scarcer than before.

This was said by Mr J Whelan, managing director of Aran Energy Ltd, in a speech he made to the Leinster Society of the Institute of Chartered Accountants in Dublin late last month. Here we present an edited version of Mr Whelan's remarks.

Never in the history of mankind has a single commodity, so dominated the world's headlines as has oil during the past five years. Oil as the prime essential source of world energy, oil as a polluter of the environment, oil as a keg of international political dynamite, oil as the salvation of hard-pressed economies. Oil companies have been depicted as heroes seeking new discoveries at the frontiers of technology, as villians polluting earth, corrupting Governments and profiteering at the expense of the people.

Why this sudden emergence of oil and energy as an almost obsessive theme of the world's media and what are the underlying realities?

When the principal Arab oil producing countries imposed an oil embargo as a political weapon in late 1973, they

OIL EXPLORATION

caused a five-fold increase in crude oil prices, created global chaos and threw the western world into a major recession from which it has not yet recovered. Paradoxically, they may have also saved us from total disaster by sending up a red alert as to the true underlying reality. This is, that our known energy resources are not alone finite, but are in imminent danger of running out.

The position can be summarised as follows:

(1) Total world oil production to date 320 billion barrels;

(2) Total reserves 785 billion barrels;

(3) Estimated total reserves 925 billion barrells (600 - 1400 billion range).

The world presently uses about 20 billion barrels a year. This means that known reserves will last only 39 years at present rates of consumption. An increase in the economic growth rate could significantly reduce this period. Furthermore, 58% of all known reserves lies in the highly volatile Middle East, and as much as 46% of the estimated undiscovered reserves lies within the Communist bloc.

Government's throughout the world now appreciate the finite nature of oil resources and their dependance on Middle East supplies. Indeed it can be argued that the 1973 oil embargo, although traumatic, may have saved the world from a worse fate, but hurling it from a complacency to an essential awareness of the basic underlying crisis.

We are simply running out of energy. We now enter a new era where alternative sources of energy must be found, and that transition must take place within a very short timespan and with a rapidly increasing scarcity of oil as an energy source. Indeed, a case can be made that oil should ideally no longer be used for energy at all, but as a feed-stock for our primary industries, such as pharmaceuticals and petro-chemicals, and as a lubricant for the machinery of the post-oil age.

Where does this leave us in Ireland? It highlights the urgent need for Ireland to gain access to ownership of crude on a long-term basis, ideally from our own production in Irish waters. In view of the likely long timelag between discovery and production in our own deep-water areas we should make every effort to secure ownership of external crude which would take us at least into the early 1990s.

Every major oil-hungry country in Europe is now engaged in this world-wide search for direct ownership of crude. I believe we have no choice but to join that search. It was with this in mind that Aran Energy embarked in 1976 on its programme of diversifying its exploration efforts into the North Sea and elsewhere.

Our primary long-term need, however, is to find our own oil. It is now time to re-examine our licensing terms to see if they are effectively directed to achieving our objective – the discovery, and development of our own oilfields. The nature of exploration and the history of oil development shows conclusively that discovery of oil is related directly to the pace and level of exploration.

We have not yet had a potentially commercial oil discovery. There are very few obligation wells remaining and they will almost all be completed this year. It now seems likely that unless there is a significant discovery this year, no major new obligations will be undertaken by the major oil companies based on the existing license terms.

Put bluntly, our terms are too tough. The circumstances applicable when they were established in April 1975 no longer hold good. It will serve no particular purpose to speculate on whether less severe terms at that time would have resulted in a significantly higher rate of exploration with consequent improved prospects of discovery. What is essential now is an awareness that Ireland's existing terms will not stand the test of competition for the scarce exploration dollar in 1979.

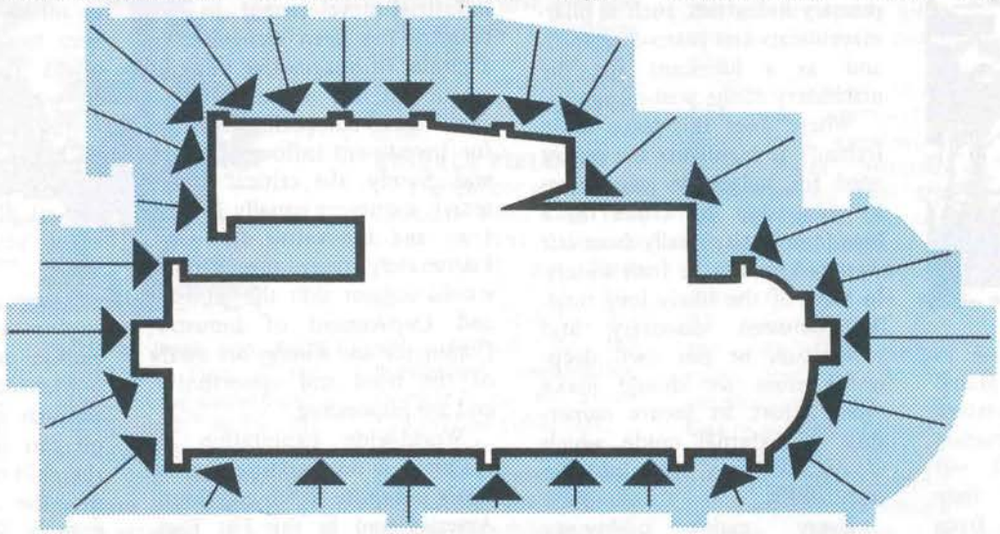
The IDA programme for industrial development in this country has been recognised as a model of imaginative thinking which has met successfully the challenge of competing countries for investment inflow into Ireland. Surely, the critical energy search merits an equally imaginative and innovative approach. Fortunately, recent press reports would suggest that the Minister and Department of Industry, Commerce and Energy are aware of the need and opportunity, and are responding.

World-wide exploration investment is accelerating, particularly off-shore North and South America and in the Far East, and we must fight for a share of that investment. Regionally, we are now competing directly with Norway's fourth round and the UK's sixth round, apart from increased activity in Spain and Portugal, France's Mer d'Iroise, and Holland. Oil companies, no matter how wealthy, do have limits to their exploration funds and must choose between alternatives.

Geological prospectivity and economic viability are given equal weighting in any choice of drilling programme. We are not an oil producing country as others are, and we do have very tough terms indeed which affect the economic viability. It would be well for us to review now our total licensing package, including the tax provisions, so as to procure the highest possible level of exploration activity in the coming years.

Only in this way can we explore all our possible hydrocarbon prospects and maximise our chances of discovery. Only through ownership of our own oil can we be protected from the chill economic consequences of the forthcoming energy crunch. The ideal form of such ownership is from our own indigenous oil production. Our Government should make every effort to create the climate for the early discovery of such oil.

THERMOEXCEL



On the surface it looks like you just save space

actually you save a lot more.....

What is Thermoexcel?
It's a unique and patented Hitachi development. An entirely new surface for heat transfer tubes which gives them extremely high efficiency—producing the same heat transfer at smaller temperature differences or more heat transfer for the same temperature difference.

Thermoexcel saves space and weight
The Thermoexcel surface is so efficient that less heat transfer surface area is required, allowing a much smaller heat exchanger and consequent reduction in the overall size and weight of machine required.

e.g. Rigging weight Model HC14B 265RT nominal capacity 3900Kg (8600lb) some 30% lighter than machines of similar capacity.

e.g. Hitachi HC14B 265RT unit is 1000mm (40") shorter than other machines of equal capacity reducing floor space by 25%.

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Thermoexcel works more efficiently at higher evaporation/lower condensing temperatures, therefore needing less overall power to operate the machine and reducing fuel costs.

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Save by using less plant room area and leave more room for production. Save by using less energy. In addition the Thermoexcel principle allows condensers to accept higher water temperatures—effectively reducing the size of cooling tower necessary.

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ENVIRONMENTAL SUPPLY COMPANY LTD.

Environmental Supply Co Ltd was formed by H W Manning of McGregor & Manning Ltd to specialise in equipment for the air conditioning, ventilating and industrial heating trades. They commenced trading in August 1976 and obtained premises in Connswater Industrial Estate, Belfast, where comprehensive stocks of aluminium grilles, diffusers, louvres, fire dampers, access doors, roof units, propeller and axial fans, Silavent toilet extract fans, Xpelair wall and window fans and Fenton Byrn fan convectors are held.

Coupled with the stocking operation, Environmental Supply Co Ltd act as Northern Ireland agents for the following well known manufacturers of air conditioning and dust extraction and heating equipment:–

ACOUSTICS & ENVIROMETRICS LTD – "Econovent" thermal heat recovery wheel, "Econovent" recuperators; ACTIONAIR EQUIPMENT LTD – Fire dampers, volume control dampers, access doors, grease filters; CLIMATE EQUIPMENT LTD – Room conditioners, computer room conditioners, chillers, cooling towers; FENTON BYRN HEATING PRODUCTS – Fenton Byrn fan convectors; HI-VENT ENGINEERING – Dust extraction units; NETALINE ADP LTD – Supply and extract grilles, linear grilles, floor grilles, circular and square diffusers, external louvres, penthouse louvres; NOVENCO LTD – Air handling units, axial centrifugal and propeller fans, roof units, heater batteries, unit heaters, "Variax" variable volume fans; REGA METAL PRODUCTS LTD – Spiral and flexible ducting; SILAVENT LTD – Bathroom and toilet extract fans. The company recently held a very successful trade show at the Park Avenue Hotel, Belfast where the entire range was displayed.

Full details on any of these products are available on request from Noel Irvine, office manager. For technical advice contact Des Collins or Tom Cummings.

Climate

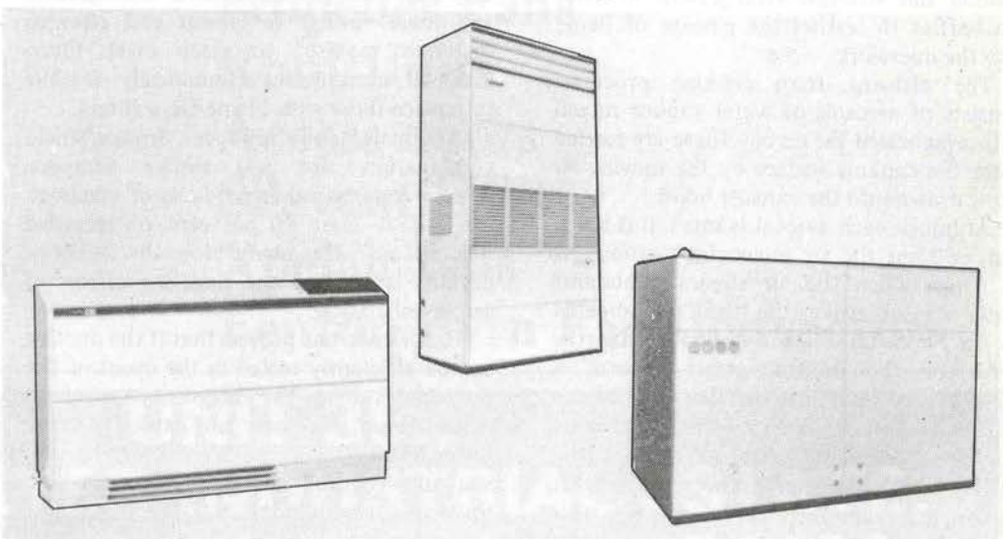
Climate Equipment Ltd is the outlet for Hitachi air conditioners and liquid chillers. The air conditioning range includes: through-wall or window console units, split type console units, floor and wall types with optional hot water heating, multi-split floor types, and ceiling split types. The packaged air conditioner range has water and air cooled room units and computer units, self-contained rooftop units, and split type units.

Among the reciprocating liquid chillers are water cooled and condenserless units, air cooled units and air cooled heat pump units. There is also a range of fan coil units, both cabinet type and furred-in type.

Climate also market a range of large capacity liquid chillers which can be run by electricity steam gas or oil.

The Hitachi water chiller range incorporates the Thermoexcel tube which was specially developed over a five year period. There are nine models in the reciprocating range from 20 hp through 120 hp together with the whole of the centrifugal range from 100 tons through 10,000 tons.

The main benefits are: space – a 20% to 30% saving; weight – a 25% to 30% saving; power – a 10% to 15% saving; energy eff. ratio – between 15% and 35% improvement at standard ARI conditions; noise – a substantial reduction by at least 12db in overall sound pressure; reliability – a modified compressor with improved valve design, better lubrication system minimising oil foaming and increased motor cooling; protection – mercury overcurrent relays plus all the normal safety controls; controls – full electronic capacity control for rapid response; and guarantee – two years from start up.



Three water and air-cooled room units from the Hitachi range of packaged air conditioners available from Environmental Supply Co. Ltd.

Building Services News, Vol. 18, Iss. 2 [1979], Art. 1

ENVIRONMENTAL SUPPLY CO LTD Phone: Belfast 54429

Thermoexcel is an entirely new surface for heat transfer tubes which gives them extremely high efficiency. This in effect means that a smaller heat transfer surface area is required, allowing for a much smaller heat exchanger and a consequent reduction in the overall size and weight of machine required.

Actionair

Actionair Ltd produce a range of fire dampers, volume control dampers, access doors and grease filters, technically advanced products which are claimed to be well ahead of their rivals.

Statistics indicate the large percentage of fires that occur in hotels, restaurants, and similar locations actually start in the ventilating hood systems located adjacent to the cooking equipment. Here are all the ingredients for a potential fire – a heat source, flammable grease, and moving air.

Many fires are probably "triggered" by the grease filtering equipment itself, and not necessarily dirty filters, though this would more often be the case. Substantial quantities of grease can be accumulated within conventional corrugated metal mesh filters in a matter of hours and since these have a very low resistance. have little or no tendency towards "holding back" a flame.

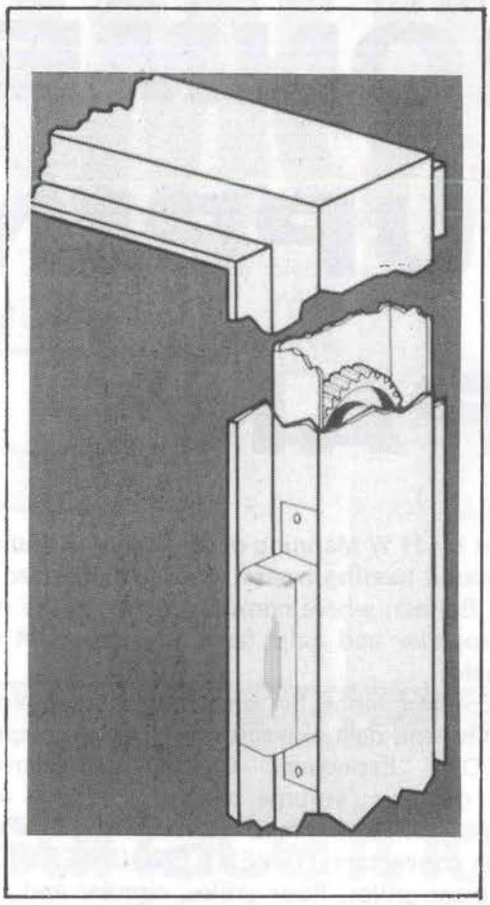
As a result, when a fire "flare-up" occurs with a piece of cooking equipment, the flame from the "flare-up" is immediately pulled through the conventional filter and ignites the accumulated grease in the filter.

Actionair's Flame Gard grease filters reduce this fire hazard with their unique patented design concept of non-grease loading and strategic arrangement of overlap baffles to restrict the passage of flame into the ductwork.

The effluent from cooking processes consists of aerosols of water vapour mixed with evaporated fat or oil. These are carried from the cooking surface by the moving air being drawn into the exhaust hood.

Although each aerosol is small, it is much heavier than the air molecules surrounding it. Thus, when the air stream containing these aerosols strikes the blank wall created by the Flame Gard baffle system, the inertial force of the moisture-grease aerosol is considerably greater than that of the air molecule. While the air molecule changes direction easily, the aerosol strikes the baffle with considerable force, causing it to "splatter" on the surface. Because this surface is Teflon-coated, the grease slides down on the baffle to the trough and thence to the collecting container.

Because Flame Gard grease filters remove grease aerosols from the air stream and drain it away instead of retaining it, there is no build-up of grease in the path of the air,



The galvanised 16 gauge steel outer frame ensures a strong, rigid, air tight and dust proof enclosure.

Flame Gard grease filters have a unique feature: adjustable baffle that allow air system balancing regardless of where the filters are located relative to the exhaust fan.

Flame Gard grease filters are made of extremely durable materials that will probably last many, many years. Considerable additional savings in labour and cleaning materials required to clean mesh filters make it even more economically feasbile to replace these with Flame Gard filters.

Actionair also produce Smoke/Shield combination fire and smoke dampers. Smoke and the other products of combustion kill at least 80 per cent of recorded 'fire victims'. But many more die weeks or months later from the lingering effects of smoke inhalation.

Experience has proved that if the ducting can be efficiently sealed in the event of fire thus controlling the insipient spread of smoke laden, hot toxic and explosive gases, through a building, the life risk can be substantially reduced and the potentially high financial loss minimised.

Actionair applied some imaginative engineering and lots of actual applicational knowledge and developed the Smoke/Shield Combination Fire and Smoke Damper. The great importance of effective duct closure is the basis of the Smoke/Shield damper design, as ordinary steel curtain fire dampers including better quality constructed Fire/Shield stainless steel curtain fire damper, even with its side seal gasketing, all have infinitely higher leakage factors than the new Smoke/Shield combination damper.

Fenton Byrn

Fenton Byrn Heating Products market a range of fan convectors which are manufactured for them by Standard and Pochin Ltd of Leicester. A new metric range is now available through Environmental Supply, which incorporates many improvements on the well-proven Fenton Byrn "V" range, while keeping the best feature of that range. A wide variety of models are now available as standard, and include the following specifications:

Casing lengths are in metric modular increments of 700, 900, 1200 and 1500 mm, with a height of 600 mm and a total depth of no more than 250 mm. Available in freestanding and concealed models suitable for floor, wall or ceiling mounting.

A choice of heating duties is offered ranging from 4.0 to 15.0 KW (13,500 to 51,000 BTUs/hr) at standard conditions and on the quiet running normal speed setting.

Streamlined extruded aluminium grilles are included in the basic freestanding models which give the unit an extremely attractive look.

A slideaway plenum chamber, incorporating all moving and mechanical parts, is employed. This can be completely removed for servicing once the unit has been isolated and the inbuilt electrical plug and socket disconnected.

The casing is extremely robust in construction and will allow for reversal of pipe connection handling and air flow arrangements on site, yet offers a generous pipe void area.

Each unit is fitted with a single "sealed for life" permanent capacitor induction type motor to BS. 5000 pt. 11. It is resiliently mounted and controlled through an autotransformer giving low, normal or boost fan speeds. An anti-surge fuse is fitted as standard for protection of the unit.

The standard finish on the freestanding models is the durable and attractive hammer grey stove enamel. Special application units fitted with sapele wood surrounds and white painted front panels are available as an optional extra.

Silavent

LOW COST HIGH QUALITY VENTILATION FANS

Laventaire surface mounted extract fan for refurbishing and Mayfair flush fitting fan preferred by specifiers nationally for new construction.

Unique plug-in features for simplicity of fixing and ease of maintenance.

Most quiet in operation and reliable.
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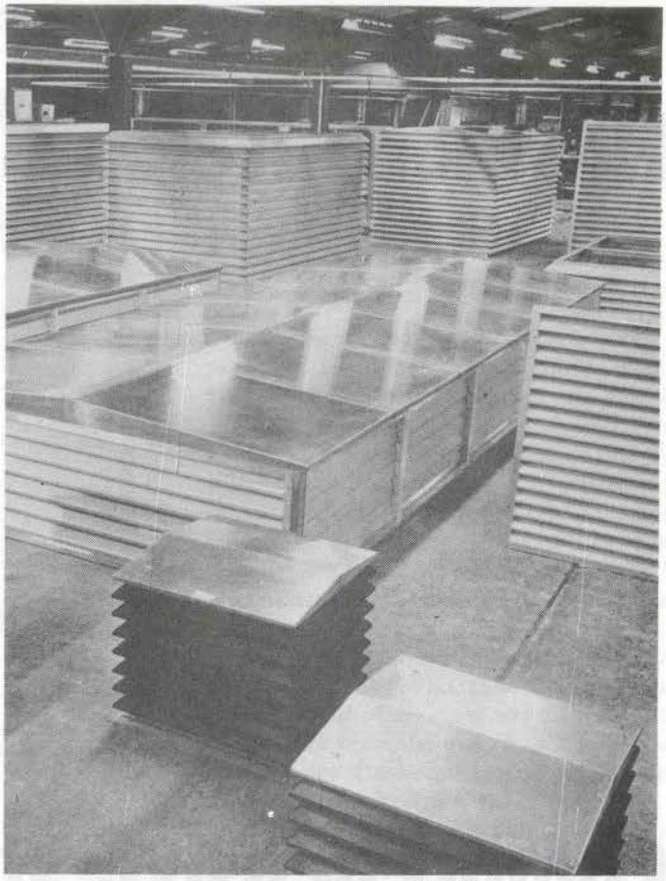
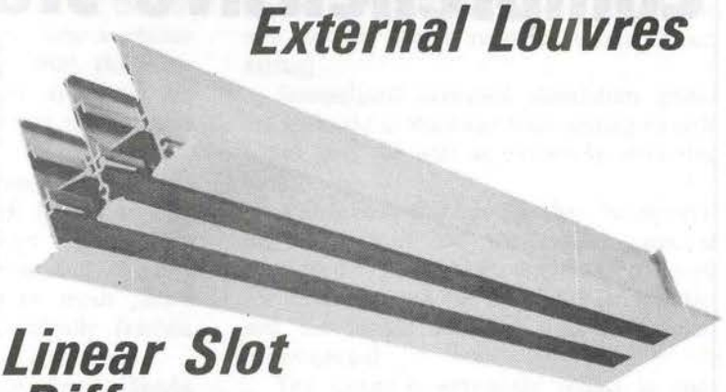
NETALINE

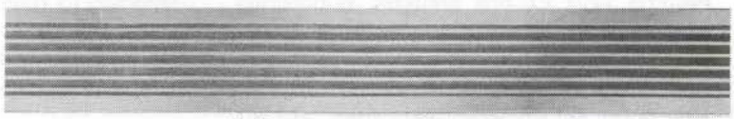
AIR DISTRIBUTION PRODUCTS LTD.



External Louvres



Linear Slot Diffusers



Linear Strip Grilles

Available from

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UNIT 35, CONNSWATER INDUSTRIAL ESTATE
BELFAST BT4 1AL. TEL: BELFAST 54429

ENVIRONMENTAL SUPPLY CO LTD Phone: Belfast 54429

An extensive range of optional extras is available which include inbuilt thermostats, fan speed control switch, plinths and filters.

Rega Metal Products

Rega Metal Products Ltd produce a range of sophisticated ducting systems and accessories at their plant in Bedfordshire, England.

Regaflex flexible chimney linings are stainless steel flue linings for use in chimneys serving appliances burning light fuel oil or gas. A full range of diameters from 3 to 20 ins is available allowing almost any chimney to be lined with the Regaflex system. It is supplied with special installer packs containing all the necessary components to complete the job quickly and with minimum effort.

Regasheath is a corrugated duct system for use in pre-stressed and post-tensioned concrete structures. It is manufactured from high quality materials to close tolerances, and the construction is spiral wound corrugated section continuously locked. It is available in plain mild steel with an electro-galvanised finish or protected with soluble oil.

Other Rega products include Regatentuator sound absorbers, and Regaspiral duct. Regatenuators, a new approach to reducing noise in duct systems, comprise a corrosion resistant perforated aluminium inner tube, an insulating layer of mineral wool, and a tough outer casing of aluminium, aluminium clad steel, or stainless steel. Sizes range from 3 to 14 ins diameter, lengths 500 mm, 1000 mm or 2000 mm, and insulation thickness either 1 or 2 ins.

Regaspiral Duct is designed for use in ductwork systems for all air moving applications, including air conditioners, ventilation, heating, cooling, exhaust emission, flue stacks and for dust and particle extraction. It replaces site fabricated rectangular duct and offers factory made quality to close tolerances.

Regaspiral is air tight and suitable for high or low pressure applications. It can be provided in long lengths obviating the need for many joints. Its spiral lockseam offers extra rigidity allowing the use of lighter gauges of metal for equal strength. Regaspiral is manufactured from a continuous strip of metal, spirally wound and locked. The Rega method utilises a mandrel to ensure absolute uniformity of diameter and tightness of the joint.

Netairflo

Netairflo square diffusers, produced by Netaline Air Distributors Production Ltd, is a range of square diffusers which differ only from the company's well-known CD model in their shape. The outer frame is made from extruded aluminium which can be adapted to fit into or fix onto, most T bar ceiling systems.

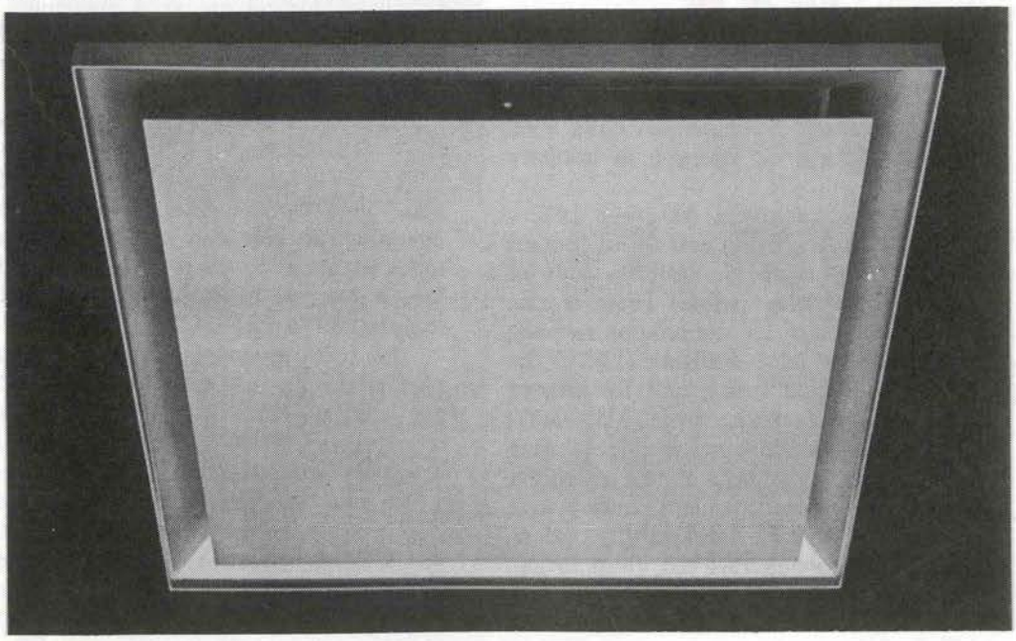
As with the CD, the SD features high mechanical strength, minimum noise levels, minimum packing volumes, and the full range of cabibrated regulation from zero to 100 per cent. The square diffuser meets all the demands of the most discerning designer, and fully meets the performance requirements of a ceiling supply outlet. Units for 300 mm and 600 mm T bar grid systems are included in the range.

During transport, the diffuser neck and damper are collapsed into the outer cone, giving minimum packing volume and the advantage of the lowest possible transport and storage costs.

Among the accessories available for the SD are sectorising baffles, mounting brackets, and equalising grids. The handbook, available from Environmental Supply, gives full technical information on selection and location, installation, and balancing procedure, and is well illustrated with the necessary tables and diagrams.

Applications of the SD include all kinds of commercial and industrial premises, such as restaurants, cafeterias, ballrooms, restaurant kitchens, factories, gymnasiums, libraries, classrooms, concert halls, general offices, hospitals (including operating theatres), broadcasting studios, and residences.

Netaline also produce a wide variety of supply and extract grilles, linear grilles, floor grilles, external louvres, and penthouse louvres.



The new square diffuser type SD from Netaline which differs only from the circular CD in it's shape.

Acoustics and Envirometrics

Acoustics and Envirometrics Ltd produce an ingenious system known as the energy recovery wheel, Econovent. This is a rotary air-to-air energy exchanger which is installed between the exhaust and supply air duct-work in a heating ventilating or air-conditioning system.

It is capable of recovering up to 90% of the total energy from the exhaust air stream before this is vented to the atmosphere, and transfers it to the incoming fresh air. This not only means dramatic running cost savings, but can also mean a reduction in the size and cost of the heating and cooling plant itself.

Econovent can be incorporated into many types of new or existing heating and ventilating systems, such as air conditioning, make-up air heating, ventilation, process and furnace exhausts, etc., and the benefits proven in thousands of installations which include hospitals, schools, offices, stores, hotels, swimming pools, printing works, theatres, animal rooms and laboratories, foundries, leisure centres, and other types of commercial building, industrial and process plants.

The recovery efficiency of Econovent is governed by its rotational speed (max 10 rpm), thus the unit can be integrated into a heating and ventilating system and its energy emission continuously matched to the system demand by use of proportioning controls which vary the speed accordingly.

Speeds of up to 10 rpm necessitate a very small power drive with low electrical consumption, and experience indicates that Econovent has an almost indefinite life.

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ENVIRONMENTAL SUPPLY CO LTD Phone: Belfast 54429

Hivent

Hivent have developed an advance range of unit dust collectors incorporating expected mandatory requirements. These logical solutions have resulted in a unit that combines operational simplicity to maximum efficiency.

The Hivent Unit Dust Collectors were designed by practical engineers who realise that appearances count. They have ensured that all motors and shaker mechanisms are concealed within the unit. No 'add ons' such as silencers or deflectors for explosion vents, the result being a unit that is streamlined. Add to this a first-class scratch-resistant paint applied to a zinc-rich primer and you will have a unit that will complement today's finely-engineered projects and installations.

A unique feature of the Hivent unit is the patented pressure relief door. The current practice recommends that in the event of explosion, pressure relief should be safely discharged in an upward direction. This Hivent benefit obviates the need for 90° deflectors which, due to the force exerted, often become dangerous projectile.

All access doors are electrically interlocked to fan and shaker motors to ensure operator safety on inspection or maintenance.

Filter cleaning is fully automatic. A vibrator motor oscillates the filter element and dislodges the particulate matter, which then drops into the dust container. This is lined with a polythene bag, for convenient disposal, thereby eliminating a secondary dust problem.

Noise is another environmental hazard often inherent in dust-control equipment. Hivent have recognised this problem and solved it by providing extensive acoustic treatment to the Hivent collector, therefore minimising noise emission.

Access to all parts of the Hivent unit is easy and safe, ensuring the minimum down time for routine maintenance.

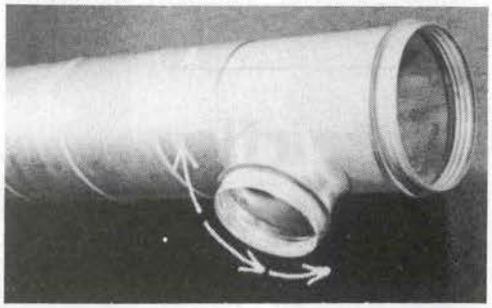
Certain applications allow the cleaned air to be re-circulated into the working environment. If necessary, absolute terminal filters can be incorporated into the unit. This reduces direct heat loss, resulting in considerable fuel savings.

Veloduct

Veloduct, produced by Hotchkiss Metriduct Ltd, is a ducting system which can be used for: high and low velocity air conditioning, fume and dust removal, void forming, drainage, agriculture, conveyor systems, warm air heating and general ventilation.

Its advantages include: established design characteristics, standard range of components, large stock range, simple push fit assembly, effective self-sealing gasket, eliminates seals and tapes, installation unaffected by weather, reduced erection time, instant testing, proven low leakage.

Veloduct installation is both quick and easy. No special tools are needed, as the tubes and fittings only need to be pushed together and locked with a self-tapping screw. The gasket is made from a solid EPDM extrusion which gives long life and durability. Sealing joints are tested to withstand a pressure of 3000 Pa, and a negative pressure will improve the seal even more.



A major advantage of the Veloduct system is that the unique design of the seal allows fittings and ducts to be rotated to the required position after being located. The sealing gasket is not affected by either rotating or lengthways adjustment.

A Hotchkiss descriptive handbook – which gives a wealth of technical information on the Veloduct system including measurements and sizes, pressure drop calculations (with charts for circular duct pipes and bends) and deviation, T piece and X pieces – is available from Environmental Supply Co.

Silavent

Silavent produce a complete range of ventilation equipment, including fan units, PVC ducting, and a good selection of ancillary items.

Fans: The Laventaire fan (type LSS – LTD) is a surface fixing unit for bathrooms and WCs, single speed, available with or without time delay switch. There is also a two-speed unit for continuous running, with auxiliary inlet available (LTS). The Mayfair is a flush fitting unit for internal bathrooms and WCs. Type MSS–MTD are single speed with or without a time delay switch. Type MTS is two speed for continuous running. Standard sanitary ware colours are available on quantity orders. Type C4/4 is a duplicate fan, flush fitting, with a standby unit and autochangeover.

For direct WC seat extraction, there are two types: Type S1 (external mounting) and type S2, for internal flush fitting. The Kitchenaire Fan is a surface mounted kitchen extract fan with a washable filter, for use with 4 ins ducting.

Silavent have three wall fans in their range: Type B17, a three-part through-wall fan with an asbestos cavity enclosure measuring 180 x 180 mm. Type R17 is a 6½ ins through wall fan with a PVC cavity liner. Type R10 is a 4 ins diameter general purpose fan giving a duty of approximately 56 CFM at 0.012 SWG.

Silavent also make the Freshflo Ventilation Unit, an acoustic fresh air input fan, which has been used with insulation to meet the British road traffic noise regulations, and in the British Airports Authority schemes. Mechanical and non-mechanical units are available.

Novenco

Novenco Ltd are suppliers, through Environmental Supply, of a wide range of air handling equipment, including axial, centrifugal and propeller fans, roof units, heater batteries, unit heaters, and variable volume fans.

Environmental Supply recently supplied two "Variax" fan units to the Belfast City Hall as part of an extensive contract. "Variax" is manufactured by Nordisk of Denmark, whose controllable pitch axial flow fans, developed on the basis of many years of research and experience, have contributed greatly to the solution of today's air handling problems.

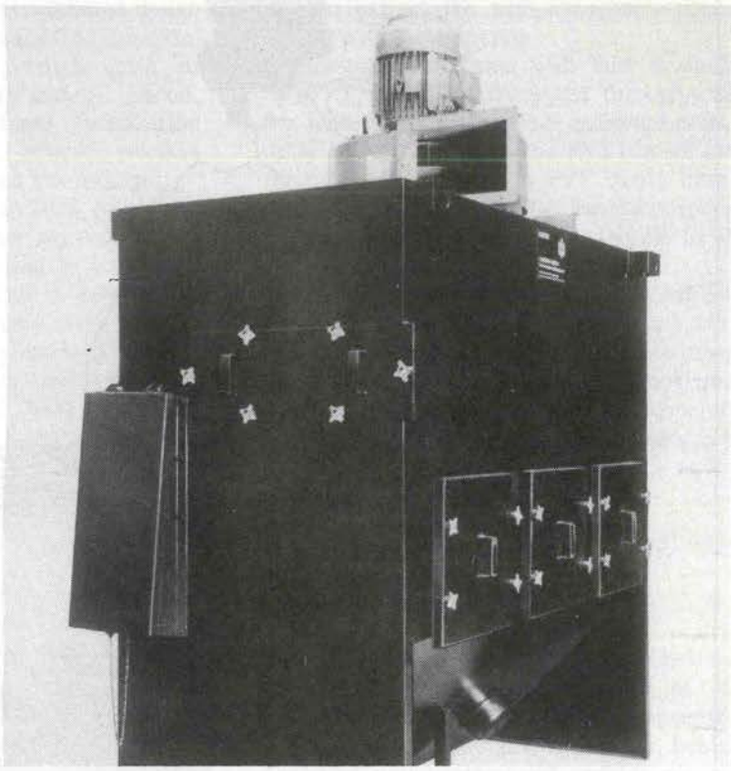
Their Tellus programme of fans with blades controllable during operation is ideally suited where the required regulation of the air volume is above 10% and the demands for economy, dependability and automatic control are at a maximum, in conjunction with: air conditioning and ventilating plants, tunnel ventilation, drying plants, mines, and refrigeration plants.

Main characteristics of the Variax Axial Flow Fan are: High efficiency over a wide field of operation; the method of regulation best suited for the given conditions, while operating at constant speed; a standard series adaptable to the majority of installations; a high rate of expediency, ie reliability in operation.

The Tellus programme is for transporting pure air within temperatures from 0° C to 40° C. For special purposes, Nordisk can design the axial flow fan best suited for any particular application.

Novenco themselves have recently added four new and larger units to their existing well-known "Climaster" range of air handling units. The new units handle volume ranges from 10,000 M^3/Hr to 60,000 M^3/Hr, thereby meeting the requirements for large handling capacities now being faced in the air conditioning industry.

NEW PRODUCTS



The Carter-Midac economy wet dust collector.

Economy Wet Collectors

Carter-Midac wet dust collectors, in "Autosludge" and "Hopper-Bottom" designs, with individual capacities of up to 100,000 cubic metres per hour, are well known throughout the world. Now Carter-Midac introduce their new "Economy" range of wet dust collectors.

These units are designed for relatively small applications with air entrainment rates up to 20,000 cubic metres per hour. Designed and constructed to make full use of the integrated unit dust collector concept to achieve ease of installation and convenience of re-deployment they also have capital costs lower than normal.

Carter-Midac "Economy" Wet Dust Collectors are available in Type EAS or Type EHS designs, depending on the method of sludge removal required. The EAS Collector has a reliable single chain drag link conveyor, of ample capacity, which deposits the collected sludge into a separate container. It provides for the collected sludge to be removed manually from the unit, at appropriate intervals (without any need to drain the collector) through special rake-out doors located down one side.

Carter-Midac EAS and EHS designs are both available in a standard range of sizes covering air handling capacities from 2,000 to 20,000 cubic metres per hour. Operating water levels are automatically regulated by electronic controls interlocked with the fan starter. All fans use backward inclined impellers to give high efficiencies, robust construction and self cleaning characteristics. The impellers are directly driven and the fan is mounted on the top of the wet collector unit.

The EHA Wet Dust Collector, based on and available in, the same sizes as the EHS, has special design features to suit applications involving fire and explosion hazards.

Further information: Turbo Dynamics Ltd, Cookstown Industrial Estate, Tallaght, Co Dublin, (Tel: 511144).

NEW PRODUCTS

Tube Cleaners from Rotatool

The Rotatool ADM3 air driven tube cleaner is a simple, straightforward machine, essential for any boiler or tubular vessel which needs regular tube cleaning as part of its normal maintenance. The emphasis is on 'safety'. In wet conditions i.e. dairy and chemical plants, it is a very important consideration for obvious reasons.

Used in conjunction with the "Rota Vac" soot, or scale collector, it provides an excellent combination of safety and cleanliness in the boiler house, etc. This tube cleaner is capable of dealing with the hardest of deposits, quickly and effectively, and will take blocked tubes in its stride.

Driving unit is a 3 h.p., 3000 rpm, rotary vane pattern motor, fitted with control valve, oil mist lubricator and silencer. The unit can be made available with carrying frame or mounted on a small three wheel steel trolley. The airline couplings are standard ¾" BSP. For satisfactory operation, the motor needs a pressure of 80/100 lbs. psi (5.5/6.9 bars) and consumes a volume of approximately 130 cubic feet (68 litres/second) free air per minute.

Additional extras such as a pressure regulator with gauge, and an airline filter (for mounting adjacent the airline connecting point) can be provided. As no oil sump is required, the motor can operate in any plane, but it must be lubricated by an air-borne oil mist, hence the lubricator incorporated, which must always be kept filled.

The appropriate lengths and sizes of flexible drives are provided together with the most suitable range of cleaning tools and brushes to deal quickly and effectively with all the tube diameters involved and the conditions of service.

The Rotatool tube cleaning machine with the "Rota Vac" vacuum unit has been designed to provide a clean, dust-free method of de-scaling straight and curved boiler tubes from 7/8" to 4" internal diameter using conventional rotary tools and wire brushes. Prior to this new development, scale or sooty deposits. removed from tube walls were free to escape to atmosphere, thus necessitating a secondary "cleaning-up" operation of the boiler room and plant. The equipment is simple and convenient for use by one operator.

The "Rota Vac" unit draws away all the loosened deposits to a collection drum, which incorporates a disposable filter bag. In addition, the vacuum unit can be employed for hand brushing of straight boiler tubes or used as an industrial vacuum cleaner for general surface cleaning. Extra tools for this purpose are available.

Further information: Halpin and Hayward Ltd, Unity Buildings, 16-17 Lower O'Connell Street, Dublin 1, (Tel: 748638/9).

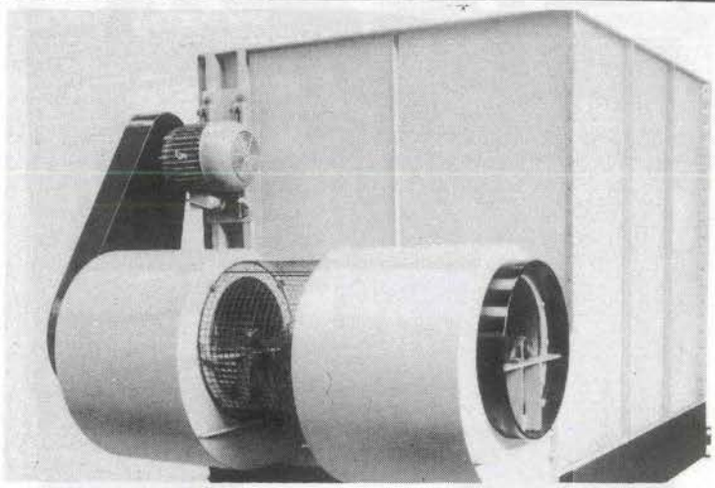
Circulating Pumps

A range of circulating pumps is now available from Heat Transfer division of Graham Manufacturing Ltd. The pumps are notable for their rugged construction, ease of maintenance and suitability for installations where space is at a premium.

The design of the pumps complements Heat Transfer's policy of a reversal to simplified and trouble-free systems evident in the company's other heating products, with the attendant saving in maintenance and operating costs.

The range includes the Type CDP twin-line pumpsets featuring two vertical pumps built into one common volute casing and designed specifically for use as duty and standby pumps.

Further information: Wm. Leech and Sons, (Tel: Belfast 645339).



The Serck-Visco packaged closed circuit cooling tower.

Packaged Closed Circuit Cooling Towers

Serck Visco have introduced a range of packaged closed circuit cooling towers, designed to meet the operational requirements of mechanical equipment that has to be sited close to residential areas. Special features include quiet running centrifugal fans, low silhouette for siting on exposed roofs and easy access to the tube bundle for maintenance purposes.

These cooling towers are of the forced draught design and are delivered as a completely assembled unit ready for siting, in a range of standard units to handle water flow rates from (approx) 10 m^3/hr to 150 m^3/hr. For higher flow rates, multiple arrangements can be designed to suit requirements.

The casing is manufactured from 2.5 mm (12 gauge) zinc-coated mild steel panels, suitably treated against corrosion, bolted together and mounted onto an integral base tank of all welded construction. This means that the tower can be dismantled if necessary for difficult siting applications.

The end plate of the cooling tower can be quickly removed, giving free access to the tube bundle which can be easily removed for maintenance purposes. The secondary circuit pump, recirculating pipework and all service connections are fitted as standard. A quick release access door is provided for inspection of the ball valve, water make up and overflow connections. Anti-vibration mountings can also be supplied if required.

The tube bundle is fabricated from mild steel tubes as standard, but alternative materials of construction are available. The tubes are incorporated into the inlet and outlet header boxes and the entire assembly is located in a rigid framework which is completely galvanised after manufacture.

Slow running centrifugal fan(s) are bolted directly to the tower casing, driven by a TEFC/WP Motor on slide rails which is also bolted onto the casing. On larger models in this range, two centrifugal fan units are driven on a common shaft through a vee-rope drive by one motor. Special attention has been given to the drive guards.

This cooling tower is an adaptation of the popular 800 Series range of cooling towers offered by Serck Visco and in common with all their cooling products, carries a guarantee of thermal performance. Further information: A P Herring, Chief Engineer, Serck Visco, Stafford Road, Croydon, CR9 4DT, (Tel: 686 3861/9).

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A new Robinair Temperature Tester now available from RSL (Ireland) Ltd.

ROBINAIR TESTER

A temperature tester which incorporates high and low range scales for both fahrenheit and centigrade readings has just been launched by Robinair. High temperatures range from 60-200°F (16-94°C) while low values vary from -50° to 75°F (-45° to 24°C), all plus or minus 2°F.

The new product also includes four jacks for detachable leads and two, 15 ft. general purpose leads. The tester operates on one 'D' battery which is not included with the instrument.

Further details are available from RSL (Ireland) Ltd, 48F Robinhood Industrial Estate, Long Mile Road, Clondalkin, Co Dublin, (Tel: 508011).

Myson Move into Electrical Field

Myson Group Marketing Ltd have entered the domestic electrical appliance field with "Myson Warm-Rail", a range of six oil filled electrically heated towel rails. Myson, already brand leading manufacturers of heating, ventilating and air-conditioning equipment, claims to be Europe's largest in indoor environmental control.

The company is currently establishing a wholesale distribution network for the towel rails, which are the first of a series of domestic electrical products Myson will introduce. A range of Hellix domestic and commercial [illegible] window and wall fans will be launched shortly.

Myson warm-rail towel rails are in three ratings of 90, 130 and 150 watts with either gold plate or chrome finish, designed for bathrooms, kitchens, cloakrooms and around the home. No plumbing or pipework is needed and running costs are as little as a light bulb. All models are B.E.A.B. approved.

The units are to be initially marketed in the UK, but are to be made available in the Republic later this year. Further information: Myson (Ireland) Ltd, Parkmore Industrial Estate, Longmile Road, Dublin 12, (Tel: 01-509075).

Modularised Chart Recorder

The Record Electrical Co Ltd, well known in the industrial measuring instrument field, with nearly 70 years' experience and service to industry, have recently produced the new Modularised Series 100 MSR Potentiometric Recorder.

Record chart recorders have been manufactured for over 25 years and enjoy a world-wide reputation for reliability, flexibility and technical excellence.

Thousands of Record recorders are operating after many years of service, some after 20 years or more of continuous use.

Modularisation of input modules was first achieved by Record seven years ago, enabling one recorder to monitor many different parameters by selection from a wide range of interchangeable plug-in signal conditioning modules.

This concept has now been extended further in the designing of the new Series 100 MSR. Plug-in feature boards enable different features, such as level switching, event pens, electro-sensitive writing and extra recording channels to be added on to the basic recorder on site and with the assistance of just a screwdriver. Clip-on chart cassettes add to its flexibility.

Further information: Industrial Instruments Ltd, 6 Herbert Place, Dublin 2, (Tel: 761691).

Coolair's 'Take Away' Air Conditioning

The problem of providing localised spot cooling in areas which are difficult to cool by conventional methods, and where whole-space air conditioning is uneconomical, has been simplified with the introduction to the Irish market by Cross Group subsidiary Coolair Ltd of a new portable air conditioning unit.

Called the "Daikin Pin-Point Air Conditioner", the unit has been specifically designed to ease the problems of operatives working on machinery or processes with uncomfortably high heat emissions.

Available in two basic types, the SUA 40B and SUA 60H, the Daikin unit is operated on the air cooled principle, requires only an electrical power supply and is operative at ambient temperatures of from 25 degrees C to 40 degrees C. Adjustable air outlet nozzles allow for directional control and cool air can also be transported over 10 metres with a straight air duct attachment.

Further information: Coolair Ltd, Cookstown Industrial Estate, Tallaght, Co. Dublin, (Tel: 511244).

New Concept in Frost Protection

After the Big Freeze-Up Disaster, you might be interested in Frostex self-regulating, cut-to-length electric heating tape, a new development for frost protection and temperature maintenance. Frostex parallel circuit construction implies uniform properties per unit length, regardless of the size of the heating tape, and can be cut to length.

Frostex unique self-regulating element controls its own heat output in response to temperature changes. As the temperature drops, it increases its output: as the temperature rises, it decreases its output at each and every point along its length. The low sheath temperature eliminates overheating and hot spots even where the tape overlaps. Already used extensively in drain lines, doors and as anti-condensation heaters, it has many other applications.

Frostex features include: No minimum length limitation: no transformers are required. Frostex can be cut to length without affecting wattage and heat output per unit length. The cut-to-length feature simplifies installation and allows custom-made heating at the job site.

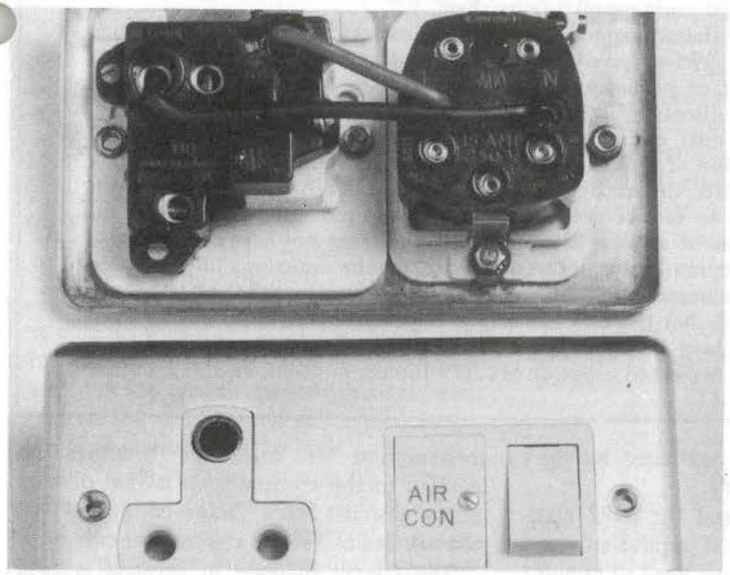
NEW PRODUCTS

No thermostats are required. Frostex regulates its wattage output in response to actual pipe temperatures or ambient temperature changes. Self-regulating features eliminates hot spots and burnouts even when the tape is overlapped. It wraps easily around pipes and fittings, even at the lowest temperatures. Simple connection and termination instructions, combined with flexibility, allow fast and easy installation.

No hot spots or burnouts. Frostex can be used safely with rubber foam or other types of insulation and can also be applied to plastic or PVC pipes. Rugged construction, combined with its technical features, provides optimum reliability and safety. Frostex carries a two-year unconditional guarantee.

Its ability to be cut-to-length at the job site sharply reduces common installation costs. Its self-regulating feature eliminates burnouts and unnecessary maintenance costs. Frostex ability to control its wattage output directly reduces operating costs by saving energy. One reel of Frostex can replace an entire stock of fixed length heating tapes and drastically reduces inventory. There is no waste – a remaining piece from one package can be easily spliced to a new reel of Frostex.

Further information: RSL (Ireland) Ltd, 48F Robinhood Industrial Estate, Clondalkin, Co. Dublin, (Tel: 508011).



The MK combined 15 amp socket and 20 amp fused connection unit.

CONNECTION UNIT FROM MK

MK Electric Ltd has introduced a combined 15 amp socket and 20 amp fused connection unit for air conditioners.

The new unit overcomes the problem of room air conditioning installations where, although the running current is less than 13 amps, the large surge current caused by turning the unit on blows the 13 amp plug fuse.

Attractively styled, in either a matt chrome or satin brass finish, the new unit is part of MK's Albany range of wiring accessories and grid-switch plates. It fits a twin gang socket outlet box eliminating the need for large and unsightly 20 amp switch fuses. The product comes with the socket and connection unit pre-wired. Installation is made by connecting up the unit with the mains.

Specification: List Nos – 2885 MCO, 2885 SAB; Rating: 15 amp socket to BS. 546, 20 amp double pole switch, 20 amp fuse to BS 1361: 1971; Dimensions: 86 x 146 mm, fixing centres 121 mm. The unit should be installed using 35 mm deep boxes List No. 886.

Further information is available from Derek Pollard, 16 Rochestown Ave., Dun Laoghaire, Co Dublin, (Tel: 863056).

2000 - the Energy Forecast

Ireland's energy consumption will have doubled from its 1977 level by 1990. And by the year 2000, it will have risen by a factor of three, to reach a level similar to those in Germany and Holland at present.

These are among the forecasts made in a paper on future air pollution trends and energy demands to the end of the century, presented at a National Board for Science and Technology seminar on air pollution impacts and control, held in Galway at the end of last year.

The authors – Martin Reilly, of the Environmental Technology Department, Institute of Industrial Research and Standards, and J G Duggan, NBST – forsee the biggest increase occuring in the consumption of coal. They expect this to have risen by 1990 to 5½ times its 1977 level, and to have doubled again in the next ten years, to 11 times its 1977 level by 2000.

Although compensation of gas oil and motor gasoline will also inevitably rise, they say this should only have doubled from the 1977 level by 1990 and trebled by 2000.

Nuclear energy and natural gas will be making a significant contribution to the nation's needs over the next 20 years. They project that nuclear plants will be generating 650,000 Tonnes of Oil Equivalent (TOE), by 1990, and that this will rise to 2,800,000 TOE by 2000.

Consumption of natural gas by 1990 they expect to be at the rate of 2,980,000 TOE – 1330,000 TOE of this being used for generating electricity – but tailing off to 471,000 TOE by 2000, when it will have ceased to be used for generating. In making this projection, the authors assume that no new natural gas finds will have been made. The Kinsale head gas field, now on steam, would be at the end of its 20 years supply life by then.

On emissions to the atmosphere, the authors expect the amount of sulphur dioxide emitted in 1990 to have increased by two-thirds over 1977. After 1985, the sulphur content of gas oil and diesel will have to be reduced to 0.5% as required by an EEC directive.

Emissions from coal combustion, on the other hand, will have increased substantially. Emission of smoke is expected to have risen by a factor of three.

For the year 2000, the authors assume that an oil refinery will have been built with facilities to reduce the sulphur content of industrial fuel oil, gas oil and diesel. Emissions of sulphur dioxide would therefore not have risen greatly, and coal would become the major contributor. Smoke emissions however, are expected to go on increasing, to have reached a level four times that of 1977.

It is also assumed that the new refinery would be capable of producing lead-free petrol, so that lead emissions from petrol engines by 2000 would be zero, compared with the projected emission of 1,019 tonnes in 1990, and 772 tonnes recorded in 1977.

The recent publication of the Government's Green Paper on energy "Energy Forecasts 1978 - 1990" has aroused considerable public discussion and debate both in the newspapers and on television. Most of the discussions has centred on the accuracy of the figures, on the amount of conservation, and on the nuclear energy question. However, one important aspect of this has been largely ignored and that is the effects on the environment in the form of air pollution.

All sources of energy with the exception of hydroelectricity lead to the emission to the atmosphere of at least one or more pollutants. As all sources of energy from hydroelectricity in this country have been used up, it follows that any increase in energy consumption will lead to an increase in emissions of pollutants to atmosphere and consequently to some deterioration in air quality.

This paper projects energy requirements for the years 1990 and 2000 and estimates the increased emissions of the pollutants smoke and sulphur dioxide. While the total energy demand for 1990 estimated corresponds to the low economic growth case of the Government Green Paper, the mix of fuels is somewhat different.

Three basic assumptions are made which if they were to change, would greatly alter the conclusions. These are:

(1) A nuclear plant will be operational by the late 1980s.

(2) No allowances have been made for possible oil, natural gas or uranium discoveries in this country or offshore.

(3) An oil refinery in the country will come on-stream in the early 1990s.

The energy demand for 1977 is shown on Table 1. Abbreviations are as follows:

TOE: Tonnes of oil equivalent. Standard method of measuring energy consumption for comparative purposes and is related to the heat value of the fuels. e.g. 1 tonne coal is equivalent to 0.665 TOE.

LVN: Light Virgin Naphtha, used in town gas production.

Miscellaneous: This includes commercial, industrial, transport and domestic consumption.

Overside: Large industrial users receiving supplies directly by ship, e.g. Pfizers, Alcan, [illegible]

Electricity: This is the fuel used by the E.S.B. to generate electricity.

The total energy demand for 1977 was 7.6 million tonnes of oil equivalent or approximately 2.5 tonnes per head of population. For comparison, the EEC average is approximately 4.0 tonnes of oil equivalent per head of population.

ENERGY DEMAND 1977 '000 TOE

FUEL \ USE	MISCELLANEOUS	OVERSIDE	ELECTRICITY	OTHERS	TOTAL
Fuel Oil	1151		1380		2531
Gas Oil	665				665
Diesel	592				592
Jet Fuel	311				311
Kerosine	121				121
Motor Gasoline	930				930
LVN				117	117
LPG	140				140
Refinery Gas				123	123
Town Gas	91				91
Natural Gas					
Coal	485	31	23		539
Peat	622		606		1228
Nuclear					
Hydro			204		204
TOTAL:	5139		2213	240	7592

The projected energy demand for 1990 (Table 2) is 15.32 million tonnes of oil equivalent. The main features of this demand from 1977 are an increase in the consumption of coal by 5½ times, an increase in the consumption of gas oil and motor gasoline by a factor of 2, and the new sources of natural and nuclear energy.

The overall increase in demand is by a factor of 2 which would increase the energy demand to 4.7 tonnes per head of population (assuming a population of 3¼ million).

ENERGY DEMAND 1990 '000 TOE

FUEL \ USE	MISCELLANEOUS	OVERSIDE	ELECTRICITY	OTHERS	TOTAL
Fuel Oil	912	103[illegible]	1535		3477
Gas Oil	1480				1480
Diesel	691				691
Jet Fuel	641				641
Kerosine	189				189
Motor Gasoline	1963				1963
LVN				120	120
LPG	237				237
Refinery Gas				125	125
Town Gas	111				111
Natural Gas	248		660		908
Coal	1250	400	1330		2980
Peat	857		683		1540
Nuclear			650		650
Hydro			200		200
TOTAL:	8579	1430	5058	245	15320

The projected energy demand for the year 2000 (Table 3) is 24 million tonnes of oil equivalent. The main features of this

demand are an increase in coal consumption by a factor of 11 over 1977 levels, an increase in gas oil and motor gasoline by a factor of 3 and an increase in nuclear energy by a factor of 4 over 1990.

The overall increase in demand is by a factor of 3 over 1977 levels. The energy demand per head of population will be 6.86 tonnes (assuming population of 3½ million), similar to present levels in Germany and Holland.

ENERGY DEMAND 2000 '000 TOE

FUEL \ USE	MISCELLANEOUS	OVERSIDE	ELECTRICITY	OTHER	TOTAL
Fuel Oil	1285	2025	1710		5020
Gas Oil	2118				2118
Diesel	1043				1043
Jet Fuel	971				971
Kerosire	233				233
Motor Gasoline	2971				2971
LVN				120	120
LPG	322				322
Refinery Gas				600	600
Town Gas	111				111
Natural Gas	471				471
Coal	1500	1400	3100		6000
Peat	857		183		1040
Nuclear			2800		2800
Hydro			200		200
TOTAL:	11882	3425	7992	720	24020

Emissions to Atmosphere

The emissions to atmosphere of the pollutants sulphur dioxide smoke and lead in 1977 are shown in Table 4. The first column shows the total energy demand for each of the fuels from the previous table 1. In the second column this has been converted from tonnes of oil equivalent to the actual quantities of the fuels.

The third column shows the average sulphur content of the fuels. This is multiplied by the second column to give the sulphur emissions in tonnes, as shown in the fourth column, and is further multiplied by two to give the sulphur dioxide emission as shown in the fifth column. The total emissions for 1977 were 245,000 tonnes approximately. The major contributor is heavy fuel oil.

The major contribution to smoke emissions is from the combustion of coal and this is shown in the second table. Tests in the UK have shown that on average 3.5% of the coal burnt in open domestic fireplaces is emitted to atmosphere.

The lead emissions are obtained by multiplying the lead content of petrol 0.64 g/l by the quantity of petrol used. No allowance is made for lead trapped in the engine.

Emissions for 1990 are shown in Table 5, and have been calculated using the same procedure as for Table 4. Note that the sulphur content of gas oil and diesel has been reduced to 0.5% as required by an EEC directive effective from 1985.

Natural gas and nuclear power have been included although neither will emit

SULPHUR DIOXIDE EMISSIONS 1977

FUEL	DEMAND '000 TOE	DEMAND '000 TONNES	SULPHUR CONTENT EMITTED	SULPHUR EMISSIONS TONNES	SULPHUR DIOXIDE EMISSIONS TONNES
Fuel Oil	2,531	2,568	3.5%	89,944	179,886
Gas Oil	665	643	0.8%	5,143	10,286
Diesel	592	572	0.8%	4,578	9,157
Jet Fuel	311	295	0.3%	88	177
Kerosine	121	115	0.3%	34	69
Motor Gasoline	930	873	0.4%	349	698
LVN	117	110	0.2%	22	44
LPG	140	124			
Refinery Gas	123			3,000	6,000
Town Gas	91	7.58×10^6 ft.^{3}			
Natural Gas					
Coal	539	764 6,602	1% Domestic 1.35% Industrial	7,760	15,520
Peat	1,228		0.18%	11,884	23,768
Nuclear					
Hydro	204				
TOTAL:	7,592				245,605

SMOKE EMISSIONS 1977

CONSUMPTION	DEMAND TONNES	SMOKE EMITTED %	SMOKE EMISSIONS TONNES
Domestic	729,323	3.5	25,526
E.S.B.	34,586	0.5	175
TOTAL:	763,909		25,669

sulphur dioxide or smoke.

The total emission for 1990 is projected to be 410,000 tonnes of sulphur dioxide approximately i.e. an increase of about two-thirds. The major contributor is again heavy fuel oil but the emissions from coal combustion have increased substantially.

The total emission of smoke for 1990 is projected to be 75,000 tonnes approximately i.e. a three-fold increase on the 1977 emissions. Note that the lead content of petrol will be reduced to 0.4 g/l as required by an EEC directive, but that the total emission of lead will be increased from 772 tonnes in 1977 to 1,019 tonnes.

SULPHUR DIOXIDE EMISSIONS 1990

FUEL	DEMAND '000 TOE	DEMAND '000 TONNES	SULPHUR CONTENT EMITTED %	SULPHUR EMISSIONS TONNES	SULPHUR DIOXIDE EMISSIONS TONNES
Fuel Oil	3,477	3,530	3.50	123,561	247,121
Gas Oil	1,480	1,431	0.50	7,155	14,310
Diesel	691	668	0.50	3,340	6,680
Jet Fuel	641	609	0.03	183	366
Kerosine	189	179	0.03	54	108
Motor Gasoline	1,963	1,843	0.04	737	1,474
LVN	120	113	0.02	23	46
LPG	237	210			
Refinery Gas	125			3,000	6,000
Town Gas	111	9.25×10^6 ft.^{3}			
Natural Gas	908	36×10^6 ft.^{3}			
Coal	2,980	4,481	Domestic 1% Industrial 1.35%	51,813	103,626
Peat	1,540	6,279	0.18	14,904	29,808
Nuclear	650				
Hydro	200				
TOTAL:	15,320				409,535

SMOKE EMISSIONS 1990

CONSUMER	DEMAND '000 TONNES	SMOKE EMITTED %	SMOKE EMISSIONS TONNES
Domestic	1,880	3.5	65,800
Electricity	2,000	0.3	6,000
Industrial	602	0.5	3,010
TOTAL:	2,980		74,810

LEAD EMISSIONS 1990

PETROL CONSUMPTION: 1,843,000 TONNES

LEAD CONTENT: 0.4 g/l

TOTAL LEAD: 1,019 TONNES

Emissions for 2000 are shown on Table 6 and have been calculated as before. In this table, it is assumed that an oil refinery will be built in the country prior to 2000 and that desulphurisation facilities will be inbuilt to reduce the sulphur content of industrial fuel oil to 1.0% and of gas oil and diesel to 0.3%.

The total emission for 2000 is projected to be 450,000 tonnes of sulphur dioxide. The major contributor will now be coal with a slightly smaller amount from fuel oil.

The total emission of smoke for 2000 is projected to be 100,000 tonnes approximately i.e. a four-fold increase on the 1977 emissions.

Note that with the refinery, it is also assumed that it will be possible to produce lead-free petrol. If the lead content of the petrol were 0.15 g/l the total lead emissions would be 578 tonnes.

SULPHUR DIOXIDE EMISSIONS 2000

FUEL	DEMAND '000 TOE	DEMAND '000 TONNES	SULPHUR CONTENT EMITTED %	SULPHUR EMISSIONS TONNES	SULPHUR DIOXIDE EMISSIONS TONNES
Fuel Oil	5,020	5,096	Electricity 3.5 Industrial 1.0	94,374	188,748
Gas Oil	2,118	2,048	0.30	6,144	12,288
Diesel	1,043	1,008	0.30	3,024	6,048
Jet Fuel	971	922	0.03	277	554
Kerosine	233	221	0.03	66	132
Motor Gasoline	2,971	2,790	0.04	1,116	2,232
LVN	120	113	0.02	23	46
LPG	322	286			
Refinery gas	600			3,000	6,000
Town gas	111	9.25×10^6 ft.^{3}			
Natural gas	471	18.5×10^6 ft.^{3}			
Coal	6,000	9,023	Domestic 1.0 Industrial 1.35	106,541	213,082
Peat	1,040	5,592	0.18	10,065	20,130
Nuclear	2,800				
Hydro	200				
TOTAL:	24,020				449,262

SMOKE EMISSIONS 2000

CONSUMER	DEMAND '000 TONNES	SMOKE EMITTED %	SMOKE EMISSIONS TONNES
Domestic	2,256	3.5	78,960
Electricity	4,662	0.3	13,986
Industrial	2,105	0.5	10,525
TOTAL:	9,023		103,471

LEAD EMISSIONS 2000

LEAD CONTENT OF PETROL: 0.0 g/l

LEAD EMISSIONS : ZERO

Air Quality in 1977

The air quality in Dublin in 1977 is shown on Table 8. This is a summary of the data described in a previous paper and reported by the Health Inspectorate of Dublin Corporation.

Alongside this we have shown the relevant proposed E.E.C. standards for sulphur dioxide and suspended particulates. While the E.E.C. standards refer to the medium value, we have found that in pollution monitoring of this kind the median value is normally lower than the mean and so we can safely say that the air quality in Dublin complies with the proposed E.E.C. standard. The daily levels have only been exceeded in 0.3% of the measurements and it is probable that these comply with the E.E.C. directive also, up to 2% excess being allowable.

Air Quality in 1990

Again the projected air quality in Dublin for 1990 is shown on Table 8. Also in the same way we would assume that the air quality will be in compliance with the proposed E.E.C. standards. Note that higher standards for SO_2 will be required in 1990. This is because the smoke level has also risen and when it exceeds 40 ug/m^3 annual median of daily means the SO_2 standard is reduced by 120 ug/m^3 to

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80 ug/m3 and when it exceeds 60 ug/m3 winter median of daily means the SO_2 standard is reduced from 180 ug/m3 to 130 ug/m3.

AIR QUALITY IN DUBLIN AREA

1977

			PROPOSED EEC STANDARD
MEAN ANNUAL LEVELS	SMOKE	30 µg/m³	80 µg/m³
	SO_2	52 µg/m³	120 µg/m³
MEAN WINTER LEVELS	SMOKE	43 µg/m³	130 µg/m³
	SO_2	58 µg/m³	180 µg/m³

MAXIMUM DAILY SO_2 LEVELS EXCEEDED 4 TIMES
MAXIMUM DAILY SMOKE LEVELS EXCEEDED 12 TIMES

1990

			PROPOSED EEC STANDARD
MEAN ANNUAL LEVELS	SMOKE	65 µg/m³	80 µg/m³
	SO_2	75 µg/m³	80 µg/m³
MEAN WINTER LEVELS	SMOKE	111 µg/m³	130 µg/m³
	SO_2	105 µg/m³	130 µg/m³

MAXIMUM DAILY SO_2 LEVELS EXCEEDED 7 TIMES
MAXIMUM DAILY SMOKE LEVELS EXCEEDED 31 TIMES

The Other Side of the Coin

Ireland can meet its energy needs from its own renewable resources, according to the Solar Energy Society of Ireland in a 130-page report entitled "Towards Energy Independence" published last month, which they intend as an answer to last year's Government discussion document, "Energy Ireland" which favoured the introduction of nuclear power to Ireland.

The SESI maintain that Ireland's renewable energy resources – wind power, wave power, biomass energy, solar energy and water power – are second in importance only to our agricultural resources, and a nuclear programme would delay their development.

LONG TERM CONSEQUENCE

"The long term consequence," the report goes on, "may well be that Ireland will have to import the technology rather than having a leading role in its development."

"They offer the prospect of Ireland being energy self-sufficient within 40 years and possibly a net exporter within the European Community early in the 21st century."

The society suggest that the Government should allocate at least 20% of State revenue gained from the import and sale of hydrocarbon fuels to the achievement of these objectives.

It sets out quite detailed functions and powers which should be given to the proposed national energy authority. One of these is that the authority should liaise with the IDA in the establishment of energy-effective industries – an objective seen as paramount.

"When energy costs increase steeply in the late 80s and 90s, these energy effective industries will be less likely to fail, with consequent loss of jobs," the report comments.

"Some industries which require large energy inputs, such as smelters, must be considered very carefully in regard to their long-term viability. The importing of large quantities of oil or coal, or the building of a nuclear power plant to make heavy industry feasible is questionable.

"If a heavy industry is considered essential to Ireland's economic development, it should be established in accordance with the broad policy of maximising energy effectiveness, and it should meet its major energy needs from its own resources and not depend on the general community supply."

The society disputes the Government's estimates of possible energy conservation effects, and urges that stronger conservation policies should be adopted. Even a less than ambitious conservation effort, it says, could reduce the projected future demand to a level which future non-nuclear generating capacity would be more than adequate to meet.

SERIOUSLY MISLEADING

It recommends that a decision on nuclear power be postponed, and that the whole question be referred to the national energy authority which it proposes.

The report accuses the Government's discussion document, of being "seriously misleading" in suggesting that uranium is widely available.

"Nuclear fuel is presently only available from a small number of technologically advanced suppliers; by contrast coal supplies are available from a comparatively large number of sources and solar based energy is totally indigenous. Consequently use of either or both of these would be much more effective in reducing the dependence of our energy supplies on external political events . . . . unprocessed uranium is of little use if it must be processed in one of a small number of countries.

"In general, the policy of the Government does little in reducing the sensitivity of the economy to energy input and does nothing in what should be a fundamental objective – the absolute reduction of the level of dependence on energy imports."

The extensive report gives figures and detailed suggestions for the development of various types of alternative energy. In its conclusions, it is sharply critical of the Government's document, accusing it of lacking in both vision and enterprise.

"The attitude of the Government would appear to be that energy consumption will continue to grow at a high rate; that energy conservation will have little effect; that conventional means are the only means to meet energy needs; that energy R & D is too expensive and that all alternative energy sources can be safetly disregarded until the next century".

The board of officials of the SESI consists of experts from many State-backed institutions, such as the NBST, the IDA, the IIRS, the Agricultural Institute, universities and technical colleges, although all are acting in a personal capacity.

UNRELIABLE

Meanwhile, the pro-nuclear argument received another knock during January when the Rasmussen study, one of the most intensive investigations ever undertaken into the risk factors in nuclear power plants, was described as "unreliable" by it's own authors, the US Nuclear Regulatory Board.

The report, widely used in Ireland by proponents of nuclear power to allay fears on public safety, described a serious nuclear accident as being as remote as the possibility of a meteor striking a major city – once in a million years.

The decision to reject totally the Rasmussen study's summary was based on a finding that the summary is "a poor description of the contents of the report should not be portrayed as such and has lent itself to misuse in the discussion of nuclear risks".

On the main study the Commission says that in some cases it was found that "cogent comments from critics were either not acknowledged or were evaded and that, in general, the record or response to valid criticism was weaker than it should have been".

Dr Norman Rasmussen, a professor of Nuclear Engineering at the Massachusetts Institute of Technology, who directed the 1975 study, accepted much of the criticisms and added that in the light of work done since the study, he now felt that the element of uncertainty was probably a factor of two or three larger than we first thought.

"We thought it was a factor of plus or minus five and now I think it is at least plus or minus 10," he said.

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CIBS/IEE Lighting Seminar

A lighting seminar, the first to be run jointly by the CIBS and the IEE took place in Dublin at the end of January. More than sixty persons representing State, semi-State and the private sector of the building/electrical industry, including contractors and consultants, attended. "It was very successful from our point of view," Seamus Homan, CIBS Chairman, told IHVN. "Not only was it highly informative to the group that gathered, but it was an excellent opportunity to develop and encourage closer contacts with our electrical colleagues in the building sector. In fact, we hope to make a seminar of a similar nature part of our yearly programme."

At the CIBS/IEE jointly sponsored lighting seminar were (left to right): Seamus Homan, Chairman, CIBS; Tim O'Brien, Chairman, IEE, Lou Bedocs, Thorn Lighting, and Michael Clark, Chairman, Lighting Division, CIBS (London).

(Left to right): Gerry Taheny, Taheny Co Sligo, Leo Shields, E G Pettel & Co, James Byrne, E G Pettel & Co and John Doherty, McGratten & Kenny Ltd, at the seminar.

Brendan O'Dwyer, ESB; George Peterson, Thorn Lighting and Aidan Murray, Arthur Gibney & Partners (left to right) pausing for a cup of coffee.

Also pausing for a break were (left to right): Board of Works employees, David Campbell, Laurence McGettrich and John O'Keefe and Tom Egan from the Department of Health.

CIBS officials at the conference included (left to right): Paddy Clonan, Secretary, Jim Rodgers, Treasurer, and Michael Buckley, Committee member.

Discussing the papers presented at the Conference were (left to right): George O'Neill, ESB, Peter Walsh, Glenelco, Kieran Millar, Dublin Corporation and Brendan McKerver, Shannon Development.

Michael McCarthy, UCD talking with (left to right) Patrick Kenny, McGratten & Kenny, Peter Nugent, ESB and Patrick Molumby, Dublin Corporation.

Don Cooney, ESB; Tom Kenny, Seamus Homan Associates; Maurice O'Leary, ECI Lighting and Patrick Daly, ESB Cork (left to right) at the seminar.

NORTHERN IRELAND REVIEW

Pictured at the McCaig Collim Ltd trade show were (left to right): J Havlin, D Stothers, P Murphy, W Boyce and G Strain.

McCaig Collim Ltd recently hosted their own Energy Show. For two days the Cambridge Suite of the Park Avenue Hotel, Belfast resounded to the inquiries and conversation of all branches of the heating industry.

McCaig Collim act as representatives and stockists for a large number of major manufacturers of boilers, valves, insulation, etc, all the items required for efficient heating and ventilating systems.

Rather than hold a series of small shows, Mr McCaig and Mr Collim, decided to bring all their principals together under the one roof and present their own mini exhibition. The large attendance and support they received from their principals was sufficient to justify the decision to mount the Energy Show.

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Dexion Ltd, the racking people, have established a series of special storage depots throughout the UK. As would be expected after their long association, Patten Cowan & Co (Belfast) Ltd have opened the Dexion Storage Centre for Northern Ireland at their Whitehouse depot.

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Ireland's major manufacturers of showers and bathroom equipment, "Flair" have appointed two new Northern Ireland wholesalers: Henry Gann Ltd of Finoghy Belfast, and H. Johnston Ltd of Lisburn.

Mr Louis Cahill a director of "Flair" has stated that by these appointments, they would be able to improve the service and supply to their customers.

******

Cool Heat Ltd of 16 Railway Street, Lisburn, have been appointed NI agents for All Glass Reinforced Plastic Construction Tanks as manufactured by Hydroglass BTR-Permali RP Ltd. Tanks are available in sizes from 200 to one million gallons.

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The Department of Commerce has announced that their Industrial Science Division has moved to 17 Antrim Road, Lisburn, (Tel: Lisburn 5161).

Mr Peter Simms, chairman of the Simms Steel Group, has announced that he wishes to resign from the position of chairman to devote more attention to other pursuits. Mr Simms has had a long and friendly association with the heating and ventilating trade in Northern Ireland.

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The Institute of Fuel NI Section announced that their Heat and Power Equipment Exhibition will be held at Balmoral 1 - 4 October.

The exhibition, to be known as Heatair 79, will once again be organised by WHC Industrial Promotions Ltd of Bluestone House, Drumhirk, Newtownards, Phone 971 - 812577.

Since its inception, this has been a successful and well supported show and Mr McBride the secretary of the Institute, advises intending exhibitors to get in touch with the promoters at an early date to avoid the disappointment which others have suffered in the past.

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The N I Heating and Plumbing Merchants Association have elected Mr Norman Beggs of Beggs and Partners as their chairman for 1979.

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One of the oldest mid-Ulster builders and plumbing merchants, T A Shillington and Sons of Portadown, have amalgamated with the rapidly-expanding firm of Haldane and Shields Ltd of Newry.

The Newry firm has bought over the shares formerly owned by the Shillington family but the executive control of the company will remain with the Whitten family in the persons of Mr Herbert Whitten, Mayor of Craigavon, and his son Allan, who have a long association with the company.

******

The Department of Environment has announced a scheme whereby householders can get up to £50 towards the insulation of their roof space.

On behalf of the D o E, the Housing Executive will pay two-thirds of the insulation bill up to a limit of £50.

Full details of the scheme are available from the Housing Executive offices.

Also at the McCaig Collim Ltd show were (left to right): N McCaig, A McConnell, D Stothers, J Barbour, T Boyle and J Cameron.

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Companies Supplying Air Conditioning and/or Ventilating Equipment

Co. Name:	Address:	Tel. No:	Telex No:	Brand:
Armstrong Autoparts Ireland Ltd. (Vent - Axia Division)	Camac Close, Emmet Road, Inchicore, Dublin 8.	781700	30830	Vent-Axia
ASEA Electric (Ireland) Ltd.	4 Mount St. Crescent Dublin 2.	767033 764736	30710	Flaxt
Axcent Ltd.	76 Merrion Road, Dublin 4.	685406	30259	Truflo Axcent Clipper
F. H. Biddle Ltd. BSS	Newtown Road, Nuneaton Warwickshire CV11 4HP	Nuneaton 384233	(UK) 31607	F. H. Biddle Riello Chromalox United Air Coil Ltd
Brennan Group of Companies	Unit 60, Cookstown, Ind. Est. Tallaght, Co. Dublin	514008 514711		Hitachi, Friedrich, Wolf, Nuero, Ventilating, McQuay, TA, Jenks PM - LUFT
Dan Chambers Ltd. C+F LTD	3 Echlin Street, off James Street, Dublin 8.	720448 784953		Novenco, Roof, Units Ziehl-Abegg, Marcal Netaline, Eurovib LENNOX
Chyrotemp Engineering Ltd.	Beech Hill, Clonskeagh, Dublin 4.	694300	5467 30819	Airtemp, Euroclima, Tempaire, Bahnson
Climavent Ltd. Fearon	29 Nth. Brunnswick St. Dublin 7.	776615	31718	Bahco, Brookeair, Holdfire, Marlo, Airpower, Accadiar
Coolair Ltd.	Unit C, Cookstown Ind. Est. Tallaght, Co. Dublin.	511244 511540	31689	Barber & Colman, Daikin, Searle, Airdale VEQUIP

Colt International Ltd.	28 Main Street, Bray. Co. Wicklow.	863260		Colt
Denhu Ltd.	Walkinstown Ave. Dublin 12.	505954		Combat, Olsen, Spirovent, Raychen, Denhu
EURENCO Finheat Ltd. Sales Ltd	10 GTHE Coolube 34 Watling Street, Dublin 8.	755557 778109 778120	30751	J J Vent. Argosy Senton, Myson MATTHEWS + YATES
G.E.C. Distributors (Ireland) Ltd.	15/19 Hendrick St. Dublin 7.	775413 787377	5658	Woods, Keith Blackman, Xpelair, Redring, Claudgen, Aerfoil
Glowtherm Ltd.	194 Whitehall Rd. Terenure, Dublin 12.	513887 516644 513561	30841	Eletra, Multi-Vent, ~~Matthews & Yates~~, Luwa
Hall Thermotank Ireland Ltd.	19 Nth. Cumberland St. Dublin 1.	746054 743828	30943	Hall-Thermotank, Deltaclima, Vequip, Scottaire
Hevac Ltd.	Lomond Ave. Fairview, Dublin 3.	373796	5827	~~York~~, Wesper, Denco Miller, ~~Airwell, Solyvent-Ventac~~
W J HOGG + Co LTD	46 BALLYNAHATTY RD SHAWS BRIDGE Belfast BT8 8LE		(0232) 640379	MODUCEL ISOVEL ~~JOHNSON~~
William H. Leech & Son Ltd.	299 Ormeau Road. Belfast BT7 3GG	645339-0		Airscrew Howden, F + R Cooling, Daikin, Matthews & Yates, Nu Aire, Moniton Technico, Greenwood Airvac
M.C.W. LTD	10 Wynnfield Road, Rathmines, Dublin 6	976729/976827	30217	KLIMA
Master Air Co. Ltd.	Unit 4, Connolly Ind. Est. Cian Park, Drumcondra. Dublin 9.	379281 280865		Masterair, Combat
McKenna (Ireland) Ltd.	Ardee House, Blanchardstown, Co. Dublin.	213988	5671	Airflow
O'Brien Dust Control Ltd.	Whitestown Ind. Est. Tallaght, Co. Dublin.	512833		O'Brien
W. H. O'Gorman (Ireland) Ltd.	Unit 13, Dublin Ind. Est. Glasnevin, Dublin 11.	300977	30981	Keeprite, Cole, Detroit, Norcool

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Powrmatic Ltd.	42 Welsley Lawns, Sandyford Road, Dundrum, Dublin 14.	681355		Powrmatic
R.S.L. (Ireland) Ltd.	48F Robinhood Industrial Estate, Clondalkin. Co. Dublin.	50811	4818	Alco, Bitzer, Ranco, Castel, Contardo, Italest, Arcton
Reconair Ltd.	Unit 4A Coolock Ind. Est. Dublin 5.	470611	31356	Westinghouse, ~~Johnson, Fibreglass~~, Controlli
H. H. Robertson (Ireland) Ltd.	Robertson House, Grange Road, Baldoyle, Co. Dublin.	322721	5569	H. H. Robertson
S. R. Airconditioning Ltd.	149 North Strand, Dublin 3.	749251	5554	York, Stal, Dunham Bush
Sermet (NI) Ltd.	11 Lisburn Street, Hillsborough, Co. Down.	Hillsborough 682531	N.I. 747796	F. H. Biddle, Gilbert
Solus Building Products Ltd, (incorporating Aluminium Systems)	Corke Abbey, Bray, Co. Wicklow.	862984	4626	Solus
John R. Taylor Ltd.	Naas Road, Dublin 12.	783255	5247	Ozonair, Dunham Bush
Thompson Air Heating & Ventilating Ltd.	Shortcastle Mallow, Co. Cork.	(022) 21521	8458	Afos, EM, Kresky
Trane	46 Ardeevan Ave. Lucan, Co. Dublin.	280935	31082	Trane
Unimack Ltd.	James Place East, (off Baggot St) Dublin 2.	789570 789057	4147	F. H. Biddle
Ventac & Co Ltd.	Grand Canal Quay, Dublin 2.	713499 713014 713236	5307	Myson, Soler & Palau, Gebhardt, Maico, Hyvents
Walker Air Conditioning Ltd.	Dublin Ind. Estate, Finglas Road, Dublin 11.	300844	4862	Carlyle

Index compiled from information received from Companies.

AIR CONDITIONING AND VENTILATION

Airpac

The Airpac range, according to the manufacturers, Woods of Colchester, was designed specifically to meet the need for a unit that was competitive both in price and performance, completely metric, combined filter heater and fan in one basic unit casing, and was produced in quantity for quick delivery.

The Airpac 4 range has five sizes of unit, ranging from 0.7 m^3/s through to 4.45 m^3/s. When the units are used for heating only an increase of approximately 30% in volume can be achieved.

The filter media is of a throw-away panel type with an efficiency of 92% at a velocity of 2 m/s and is easily accessible for removal and replacement. All filter media comply with BS2831 No 2 test method. The unit is supplied with either a flag type filometer or a manometer, inclined type, whichever is specified.

The heaters are of standard design of LPHW., two rows with ten fins at 2.5mm spacing. Tubes and headers are of copper. Fins are of aluminium. Connections are of BSP (m) thread. The battery can be used in left or right hand applications without any effect on performance. Coils are tested at least 25kg/cm^2 under warm water.

The fan unit comprises a double inlet, double width centrifugal type fan with a runner shaft mounted on the same frame as the motor. The frame is in turn mounted through rubber A/V mounts, thus isolating all moving parts from the outside casing.

Motors are of TEFC type. Single and standby can be accommodated on all sizes except 407. There are pre-selected drives for each size, and selections are made nearest to customers' specific requirements.

The basic unit can be mounted in horizontal, vertical, or up or down attitude without change in design. The fan can also be assembled to discharge vertically up, but this feature requires

Further information: GEC Distributors, 15 Hendrick Street, Dublin 1, (Tel: 775413).

Brennan

Brennan Air Conditioning Ltd, supply a comprehensive range of air conditioning equipment to the industry which incorporates such brand names as VES, Wolf, Jenks, Hitachi, Friedrich, Nuero and McQuay.

The company's range of Friedrich products includes: Air cooled condensing units, heat pumps, split system heat pumps, room air conditioners, terminal air conditioners and direct expansion fan coil units.

Friedrich also do Packaged Roof Top Units (Series HS-HSM) which are completely self contained. This range of packaged equipment is suitable for both thru-the-wall and roof top installations and when used in conjunction with a ducted air distribution system, offers many space-saving advantages.

Energy saving and quiet operation are also two important features of this equipment. Lower operating costs are possible from the use of high capacity condenser coils, whilst extensive use of unit-surrounding sound deadening insulation and vibration/sound isolation devices ensures low operating noise levels. Six models will be available covering a cooling capacity range of 30000 btu/hr to 120000 btu/hr.

Also available from the Tallaght based company is McQuay system engineered equipment which covers fan coil units, air handling units, condensing units, a series of packaged chillers, water cooling towers, and roof top units. Their variable air volume systems (Fluidtech Series) are a range of variable air volume (VAV) terminals, which, when used in conjunction with equipment from the range of roof top units, air handlers and water chillers, provides total system capability. This type of air conditioning system employs the concept of varying the supply air quality to the conditioned space at a constant temperature to balance the heat gains or losses to achieve and maintain desired room temperatures.

This true VAV system produces operating economies, and reduced equipment and duct sizes, since supply air can be diverted from areas where it is not required, to areas which need cooling. McQuay VAV terminals are powered by plenum air pressure offering further operating economies and reduced commissioning and maintenance costs.

The terminal VAV diffusers are available for a range of 150 to 450 cfm and can provide either 100% shut off or adjustable minimum air quantity. A complete range of VAV terminals are available from 150 to 7500 cfm.

Further information: Brennan Air Conditioning Ltd, 60 Cookstown Industrial Estate, Tallaght, Co. Dublin, (Tel: 514711).

Coolflo

The Coolflo range of fan coil units is based on a simple chassis design which can be provided with an attractive exterior casing if required.

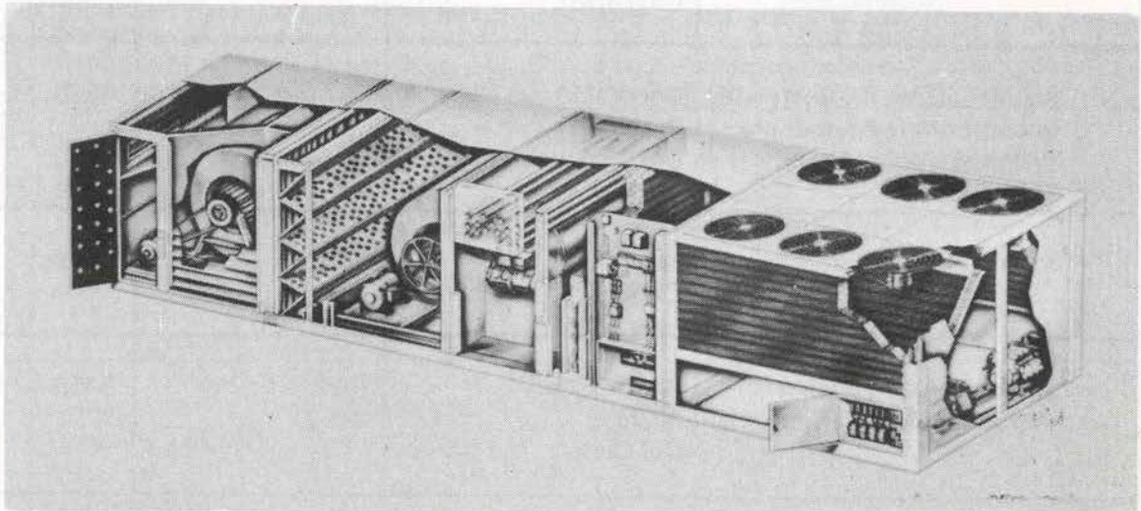
Chassis units are available in two types, (either vertical or horizontal) and are formed from heavy gauge galvanised sheet steel, stiffened where necessary to prevent drumming. A large access door, secured by screws, is provided for servicing of motor.

Standard controls: The chassis units are supplied without switches as standard and can be operated on one selected speed by means of a fused switched spur point provided by others. If required the chassis units can be provided with a remote mounting control box giving 3 speeds and off as an optinal extra.

Grilles: The chassis units (types HV and HH) are not supplied with grilles as standard. Loose grilles are available as an optional extra.

Cased units have two standard types available: W2 – Vertical, floor or wall mounting application; C3 – Horizontal ceiling mounting application.

Type W2 has an attractive zintec casing with sapele veneered wood end panels. The front



McQuay's new range of Roofpak packaged rooftop air conditioning units are available from EER Air Conditioning Products.

AIR CONDITIONING AND VENTILATION

and top panels are finished in stone grey, colour code 10-B-17 BS 4800. The filter cover plate and feet are black.

Type C3 is an all zintec sheet construction having removable end sections to give convenient access to ceiling fixing holes and connections.

Metal sheathed electric heating elements mounted in each fan discharge can be supplied either in kit form for site fitting or factory assembled in the unit.

Further information: Unimack Ltd, James Place East, Dublin 2, (Tel: 789570); and Sermet (NI) Ltd, 11 Lisburn Street, Hillsborough, Co. Down, (Tel: Hillsborough 682531).

Dan Chambers

Dan Chambers supplies a wide range of material for the trade, including Novenco fans – a name synonymous with Danish quality. Their successful penetration of the Irish market has shown that reliable quality products, keenly priced, are always better value.

Novenco manufacture axial, centrifugal and propeller fans, roof units, air handling units, heating coils and regulatable unit heaters. One of their newest products is the HJ range of roof mounted extractors which combines low operational sound levels and ease of servicing.

There are three main types in the range, all sharing similar main features including a centri-

inclined blades, an electric motor, a tilting footplate with inlet cone – to ease motor servicing and duct cleaning – and a mounting frame with vibration absorbing cushioning.

Construction is of galvanised sheet steel, although the HJB and HJE roof hood can also be supplied in stainless steel, to give extra protection against corrosion under severe operating or climatic conditions.

Applications for these extractors include office buildings, hospitals, schools and industrial buildings, as well as residential blocks.

A total of 21 models is available to provide air handling capacities from 0.05 m^3/s to over 2.7 m^3/s at system resistances of up to 400 Pa.

Further information is available from Dan Chambers Ltd, 3 Echlin Street, off James' Street, Dublin 8, (Tel: 720448).

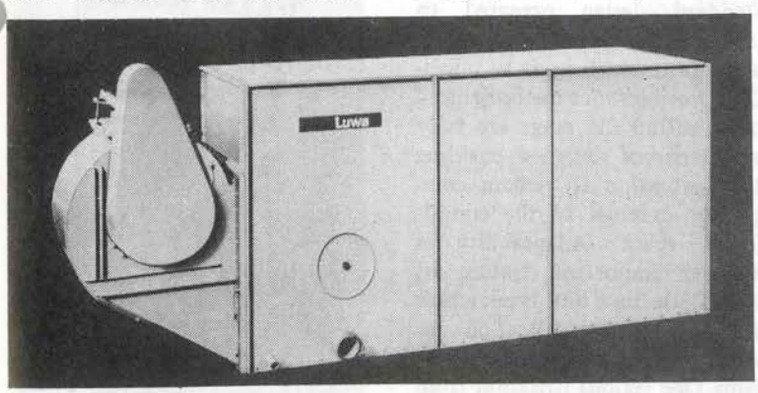
Glowtherm

A new range of cooling towers – the KTR – have recently been introduced by Luwa. The towers are primarily used for cooling the cooling water required for air-conditioning and refrigeration plants. They are also in extensive use throughout industry for recooling water in, for example, steel works, foundries, rubber factories, the plastics industry, the beverages and food industries etc.

Twenty-nine models are available in either galvanised sheet steel with powder coating or stainless sheet steel, and cover a cooling capacity range of from 60 kW (50,000 kcal/h) to 2,300 kW (2,000,000 kcal/h). By combining several cooling towers, cooling capacities of several million kcal/h can be achieved.

The extremely compact design results in reduced dimensions and low weights, facilitates planning and simplifies transportation. Luwa Cooling Towers KTR are factory-assembled as a complete, compact unit. On request, the unit can, however, be supplied partially disassembled or in its component parts.

For further information contact: Glowtherm Ltd, 194 Whitehall Road, Terenure, Dublin 12, (Tel: 51-3887).



Luwa Cooling Towers KTR available from Glowtherm.

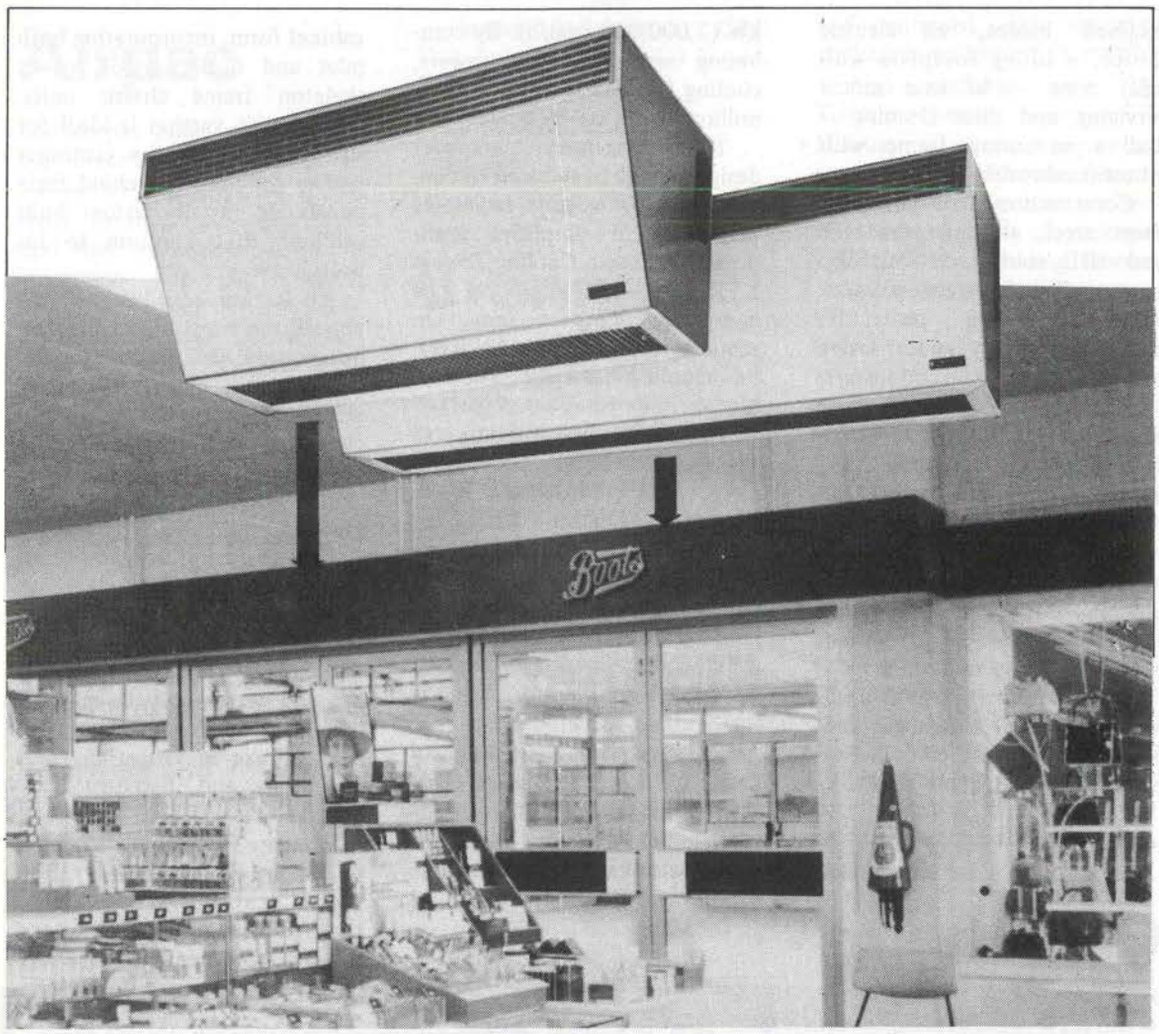
Finheat

As and from 1 January Finheat Ltd have been acting as Irish agents for the Diffusion range of equipment which includes warm air barriers, downflow heaters and air curtain units.

Diffusion 754 warm air barriers can be supplied in complete cabinet form, incorporating both inlet and outlet grilles, or as skeleton frame chassis units. This chassis version is ideal for situations where the customer wishes to build in behind facia panels or install custom built cabinets that conform to his overall decor.

To further improve aesthetic appeal, the front inlet grille may be omitted and provision made for top air entry. All pipes, valves and electrics are totally concealed and the units are designed to be installed singly or in continuous banks or modules.

The Diffusion downflow fan convectors take full advantage of the warm air strata which accumulates below the ceiling where it is of little practical use and serves only to increase the heating load. Downflow heaters take in return air from this strata and discharge it at high velocity after filtering and re-heating. These appliances may be mounted in ceilings from 9ft to 15ft high and will discharge a stream of warm air at a velocity sufficient to penetrate



Diffusion's Warm air barrier units are now available through Finheat.

down to floor level, ensuring an even distribution of warmth and the minimum temperature gradient between floor and ceiling.

Downflow heaters eliminate the need for the large ductwork required by the plenum heating systems. This is a considerable advantage where the ceiling service space is shallow or obstructed. Diffusion downflow heaters may also be installed over entrance doors to provide a warm air barrier heating in winter. The fan only may be used during the summer.

Finally, the Diffusion air curtain units provide a continuous curtain of warm air from the top to bottom of doorways, and at the same time act as a barrier to cold air, dust, dirt and pests etc., from outside. Special features include the shallow depth required in the ceiling void, only 178 mm, and the absence of the large ductwork required by plenum heating systems.

Diffusion air curtains may be mounted either singly or in modular banks, in ceilings from 2.5 - 3.5 metres, high, or installed as friezemounted units with the air discharge controlled by adjustable louvres for direction of air flow. The latter should always be installed with air intake at the top and outlet at the bottom.

During summer months the units can be used with the fan only operating to provide a curtain of filtered but unheated air to improve air circulation.

Further information is available from Finheat Ltd, 34 Watling Street, Dublin 5, (Tel: 782446).

Hall Thermotank

World leaders in refrigeration and air conditioning, Hall Thermotank are presently expanding their range of products to meet the needs of the air-conditioning market in Ireland. Products include:

Packaged airconditioning units from Deltaclima – The Deltaclima range (previously known as Paracon) follows a standard design prepared to high standards of operation and finish which leads to reliability. Furthermore the horizontal units within the range are fully weatherproof designed enabling their situation to remain completely external to the conditioned space. Adaptability is another important feature of each Deltaclima unit type, which will accept modification to overcome most installation problems One serious irritation from any machinery is noise and received at certain levels is positively harmful. This has been high on our priority list and noise levels are kept to absolute minima by the use of integral fan motors where possible and correct insulation.

Air terminal units – either 'D' or 'drum' type Punkah louvres.

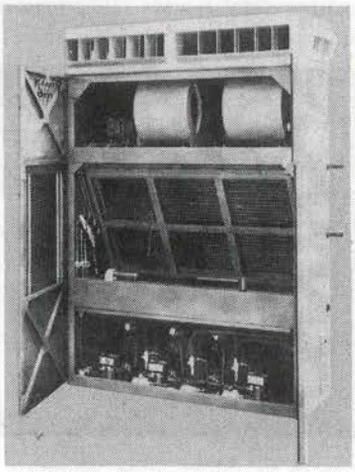
The Punkah louvre, type D, provides the most effective throw for its size and pressure. This fact, together with its large radius of action, is a valuable feature in limiting the length of branch ducts and makes possible the ventilation of remote areas where branch ducts cannot be accommodated. The air stream can be projected in any direction by fingertip adjustment.

In heating systems, the high velocity air delivered from the unit affords adequate forced convection, avoiding stratification and makes possible the use of higher duct temperatures. Although the Punkah louvre has a high discharge velocity, the streamlined design and complete absence of obstructions in the air stream result in low sound level rating.

Punkah louvre type 'D' operate at high pressure. Where its operating pressure bears a high ratio to that of the duct system, it facilitates balancing without the use of dampers, deflectors or turn vanes.

'Drum' type Punkah louvres are specially designed for installation in cooling, heating and ventilating applications where extremely long throws are required with a minimum of duct work.

The louvres combine design and performance features that make them ideally suited for

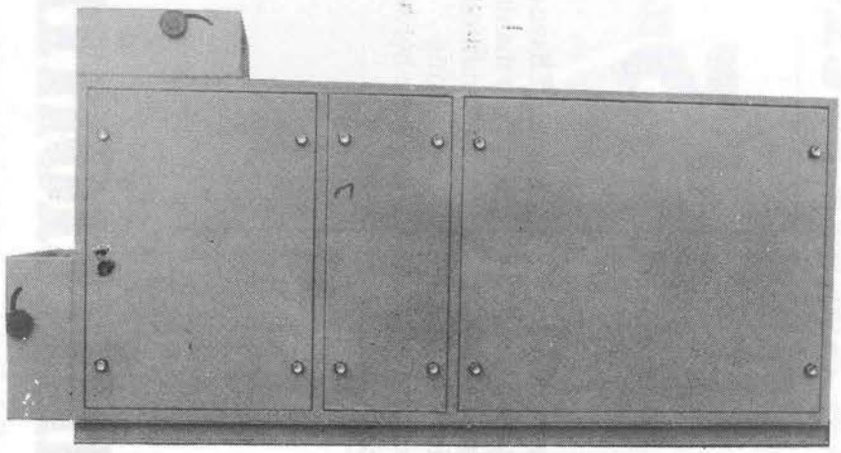


W 150 packaged water-cooled unit special plenum and louvres available from Hall Thermotank.

installation in large enclosures and are engineered to provide both horizontal and vertical control of the air stream. Control of length of throw and its direction is made possible by the adjustable drum and vane design.

AIRHANDLING UNITS FROM MASTER AIR

The Irish manufacturing company, Master Air Co. Limited, have pleasure in offering a quality Airhandling unit to Consulting Engineers, Architects, Contractors and the trade in general.



Model MHV07 with combination angle filter mixing box, steam heater battery and fan section.

ADVANTAGES

Guaranteed Irish — Now is an opportunity to specify and install an Airhandling unit manufactured by a wholly owned Irish manufacturing company.

Design — Superior robust design with the main frame structure formed from 12 gauge box section steel. All panels are internally insulated and attenuated to minimise noise breakout.

Range — Heating application units up to 50000 m^3/h. Cooling and De-humidifying units up to 50000 m^3/h.

Low Noise — All units can be selected at maximum static efficiencies, low rpm and low noise outout. All fan and motor units are mounted on an internal floating frame thus minimising vibration transmission to casing and ducts.

Delivery — We offer a better realistic delivery to site than any other Airhandling unit manufacturer outside Ireland and eliminate lengthy transportation delays.

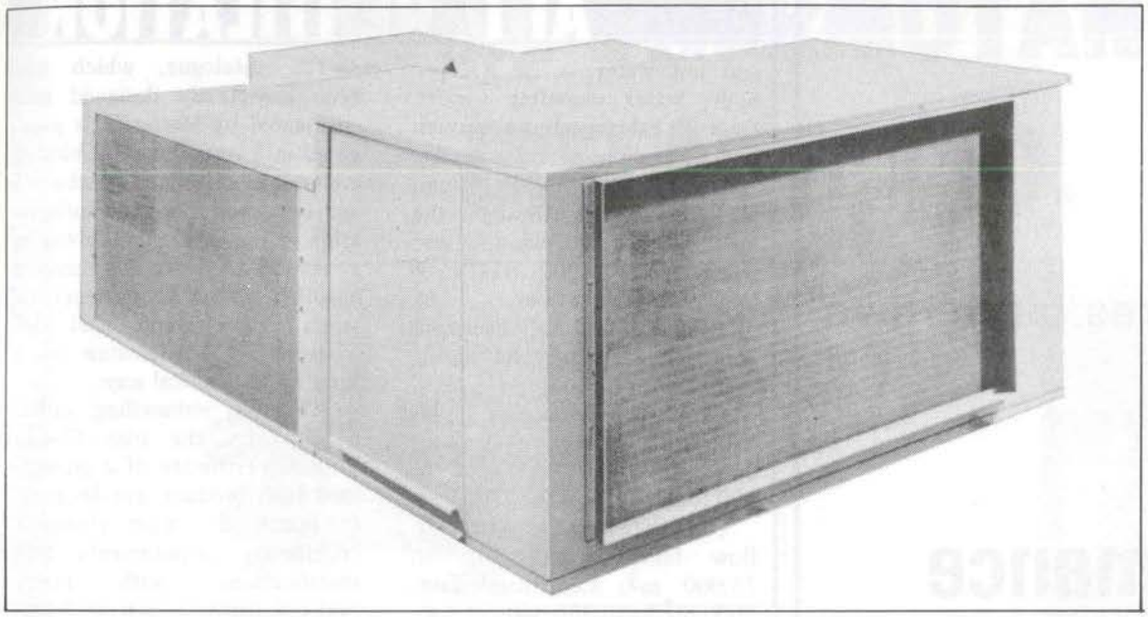
Cost — Because we have direct control over our own manufacturing costs, and a range of standard units selected to meet specific duties without the need to oversize, we can offer a very competitive price for any given size of unit.

For further details or price quotation please contact:

Master Air Co. Limited.

Unit 4 Connollys Industrial Estate, Cian Park, Drumcondra, Dublin 9. Tel: 379281/280865 or Quiklink 972111 Unit 721 and Unit 133.

AIR CONDITIONING AND VENTILATION



A Delta-Clima roof mounted air-cooled packaged unit available from Hall Thermotank Ireland Ltd.

available only in these units originated by Thermotank engineers.

HT Ireland also supply ducting and fittings and a new and comprehensive range of grilles.

The company completes its total service with comprehensive repair, planned maintenance and inspection, emergency breakdown and spares supply activities carried out nationwide for all users of refrigeration and airconditioning equipment.

For further details of products and services available contact: Airconditioning Products Manager, Hall Thermotank Ireland Ltd, 19/22 North Cumberland Street, Dublin 1, (Tel: 746054/743828 Telex: 30943).

Hevac

With the recent addition of the Denco Miller range of computer room equipment, Hevac can now offer a complete package to the trade. The full range of products now carried by Hevac ensures that the specifier can now get all he needs from one source.

Products included in the range are the following:

YORK, division of Borg Warner: Air cooled condensing units, 1½ to 45 tons; air cooled condensers, 3½ to 350 tons; air cooled liquid chillers, 5 to 360 tons; water cooled liquid chillers, 5 to 180 tons; chillers centrifugal, water cooled, 90 to 1,300 tons; centrifugal chillers open drive, 90 to 8,500 tons; induction units, primary air flow 50 to 300 metres 3/R, induction ratios up to 6 to 1; low velocity variable air volume units, 12M3/R to 1,400 M3/R; high velocity variable air volume units, 12M3/R; fully packaged air conditioners rooftop, 3 to 40 tons; packaged split system air conditioners, 1½ to 35 tons.

WESPER: Air handling units, 1,000 M3/R to 100,000 M3/R; heating and cooling coils DX and chilled water, complete range. Fan coil units, 250 M^3/R to 1,200 M^3/R; unit heaters steam

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DOI: 10.21427/D7N99M

AIR CONDITIONING AND VENTILATION

and hot water, 4,700 KK per hour; water recooling towers, from 70 gal per minute through to 1,600 gallons per minute.

AIRWELL/FRANCE: Room air conditioners through the wall, through the window and small splits, 5,000 BTU's to 24,000 BTU's per hour.

DENCO-MILLAR: Packaged computer room air conditioning units, 2 tons to 80 tons.

CLARIF: Packaged liquid chillers. Special applications down to -100°C, 2 tons to 300 tons.

SOLYVENT/VENTAC: Axial flow fans, 1000 m^3/hr to 75,000 m^3; Centrifugal fans, 3000 m^3/hr to 250,000.

Further information is available from Hevac Ltd, Lomond Avenue, Fairview, Dublin 3, (Tel: 373796).

Masterair

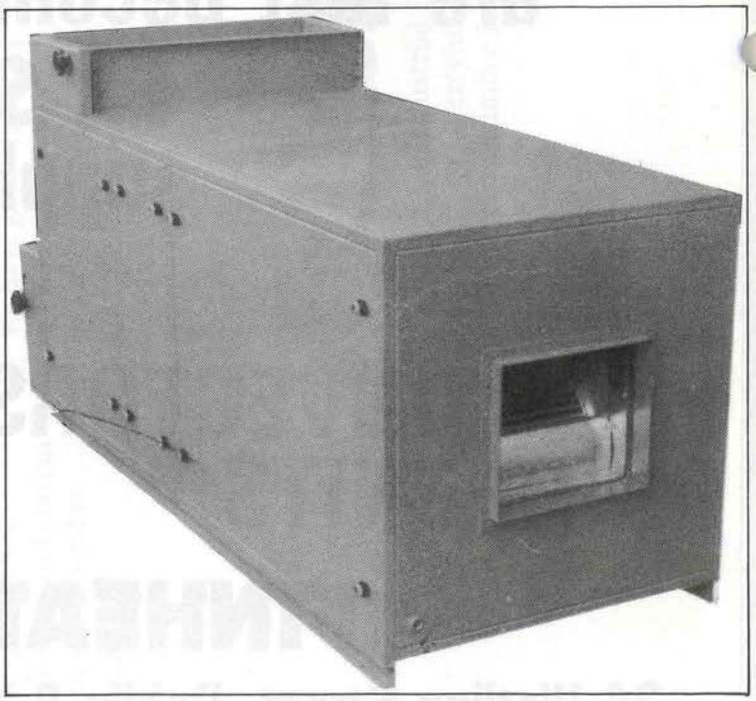
Master Air Co Ltd, the wholly owned Irish airhandling unit manufacturers announce the availability of their new airhandling unit catalogue, covering a wide selection of standard size units for both H & V and Airconditioning applications.

The catalogue, which has been completely designed and engineered by Masterair, is presented in a very attractive binder containing all relevant technical and selection data. The information in the catalogue is given in a concise and logical manner enabling the HVAC engineer, to select a unit and read off 'roughing in' dimensions in a simple and practical way.

Masterair airhandling units, which carry the Irish Goods Council certificate of a guaranteed Irish product, are designed to match the most stringent engineering requirements and specifications, with many optional features such as: backward Aerofoil DIDW fans, geared inlet guide vanes, double skin construction etc.

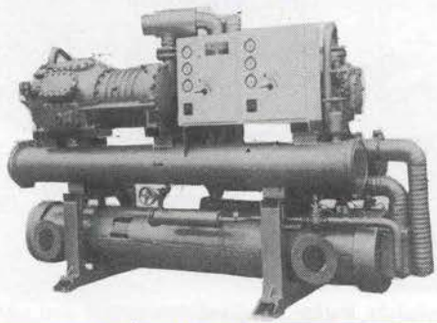
Whilst the Masterair catalogue illustrates a range of standard sizes of airhandling units, custon built units can be designed to suit awkward and restricted plantrooms or other spaces. This flexible policy ensures a very comprehensive service to clients in terms of primary air moving equipment and one which will be welcomed by the mechanical contractor and the trade in general.

Some of the projects for

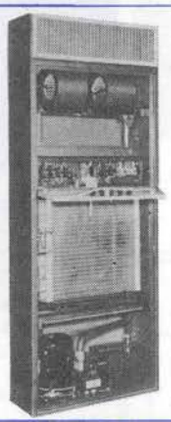


Master Air's Model MHV03 - mixer, filter, LPHW coil and fan section.

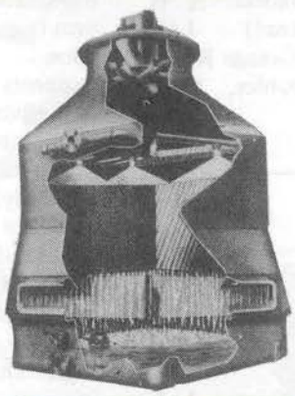
HALL THERMOTANK IRELAND LTD.



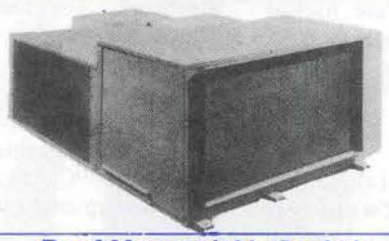
AC Duplex Aquachill Unit
Packaged Water Chiller.



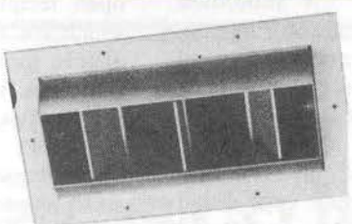
Vertical Air Cooled Package Unit
with Plenum



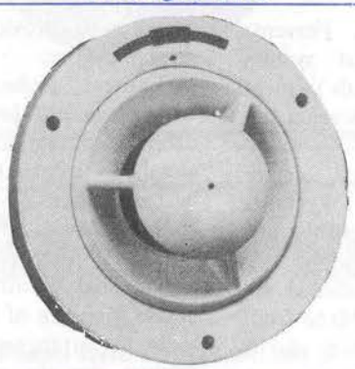
PN Type Water Cooling Tower
Capacity from 10, to 1000 G.P.M.



Roof Mounted Air Cooled
Packaged Unit



Drum Type Punkah Louvre



Type D Punkah Louvre.

THESE ARE JUST SOME OF HALL THERMOTANK'S RANGE OF AIR CONDITIONING EQUIPMENT

For further details contact

HALL THERMOTANK IRELAND LTD.

19 Nth Cumberland Street, Dublin 1. Phone: 746054. Telex: 30943.
132 Oliver Plunkett Street, Cork. Phone: 021/57516.

https://arrow.tudublin.ie/bsn/vol18/iss2/1
DOI: 10.21427/D7N99M

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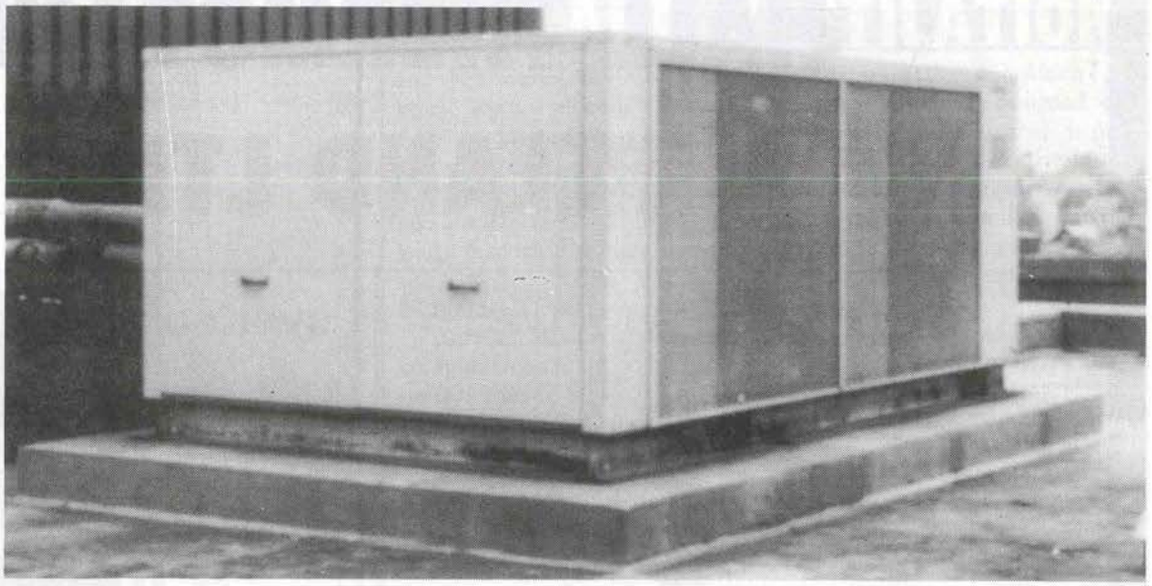
which Masterair have supplied airhandling units are: Wyeth Ireland Ltd (6 no.), Superquinn Supermarkets (5 no.), Rathmines Shopping Centre (2 no.), Irish Life Complex (13 no.), IIRS (2 no.) and many more.

For further information contact: Master Air Co Ltd, Unit 4, Connolly's Industrial Estate, Cian Park, Drumcondar, Dublin 9, (Tel: 379281/280865).



A Carlyle 30GA065 air cooled reciprocating chiller supplied by Walker Air Conditioning Ltd, and installed on the roof of Abbey Court House, Cork. This supplies chilled water for the variable air volume system serving the entire building.

Robertson

Robertson manufacture a complete range to solve every ventilation problem from small warehouse to blast furnace, and including fire vents. In every case the performance is precisely matched to the need. Robertson ventilation systems are backed by a comprehensive service from design to installation. The range includes:

Monitor: Nearly 500 heavy-duty installations in the industrial hot spots of the world. It is weathertight and withstands corrosive fumes with minimal maintenance, and exhausts without a power supply.

Input & Extract Fervent: This has four input system sizes, with motor speeds to meet a variety of needs. Fervents can work on fresh air only, on mixed fresh and recirculated air or recirculated air only. Fervents are also used extensively for spot extraction. Attractive low silhouette cowls are included.

Large streamline: Made from Galbestos in a choice of 10 colours, with or without manually or electrically operated damper control.

Small Streamline: Weathertight in all conditions, even monsoon, these natural ventilation units are easy to install without additional structural steelwork. The low silhouette allows the system to be 'lost' on many roofs.

Heat and smoke release ventilators: The standard opening method is by fusible link which melts at 68°C, thus preventing the build-up of heat which can turn a minor fire into a major conflagration. Ventilators can also be operated by various systems to provide cooling in hot conditions.

Louvres: Robertson offer a wide range with low air pressure drop and high resistance to weather penetration. In Galbestos or aluminium.

Sun Louvres: By keeping out unwanted solar radiation, these louvres reduce air conditioning costs. A choice of blades, variations in arrangement and 24 colours give the architect great design possiblities. The louvre blades are manufactured from Versacor with its multi-layer protection on both sides.

Further information: H H Robertson (Ireland) Ltd, Robertson House, Grange Road, Baldoyle, Co. Dublin, (Tel: 322721).

Walker

Walker Air Conditioning Ltd, one of the largest suppliers of air conditioning equipment in the country, is the authorised distributor throughout Ireland, Scotland and Northern England for Carlyle air conditioning and refrigeration equipment.

In 1970, the company became part of the Jefferson Smurfit Group and capital and new management were injected under the leadership of Jim Anderson who was appointed general manager. Anderson was appointed Managing Director in 1972 and has been instrumental in restructuring the company to give it greater technical, administrative and sales depth.

Walker, who have flourishing operations based in Glasgow and Belfast, have always attached great importance to providing efficient pre- and after sales service, and hold one of the largest stock of spares in Ireland. Their 5,500 sq. ft. Dublin warehouse also houses a spares sales counter and a large well-equipped workshop for compressor and other off-site repair work. The company also has its own team of refrigeration installation and commissioning engineers.

Despite Walker's diversification into allied fields such as filtration and pumps, the supply of Carlyle equipment remains the pivot of the Walker operation. Products range from room air conditioners with nominal capacities starting at 1.6 Kw right up to the largest centrifugal chillers with capacities of more than 7040 Kw. Other items include:

Compressors: The 5 series open reciprocating compressors which are available with belt or direct drive assemblies with capacities from 17.6 to 845 kW. The 6 series hermetics go up to 351.7 kW.

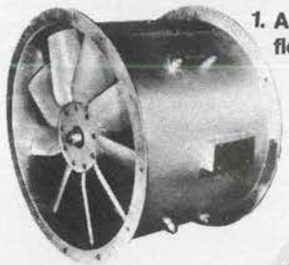
Condensing units: The smaller 38 series air cooled units are a distinctive cylindrical configuration and offer from 7.04 to 21.1 kW. The larger capacity units, up to 246.4 kW, are low profile for roof top use. There is a range of water cooled units as well.

Air cooled condensers: The 9 series units are designed for vertical installations with horizontal air flow, or vice-versa, from 8.5 to 2957 kW.

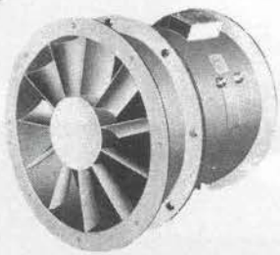
Air handling units: The 39 series of roof top modular air handling units have blow through or draw through, reheat or preheat from 1.18 to 29.7m^3/s.

Self-contained packages: A versatile range of self contained

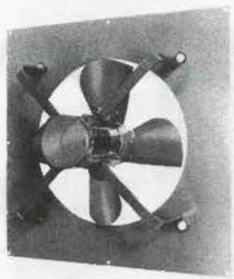
Ten ways to solve your ventilation problem with MYSON



1. Axial flow fans

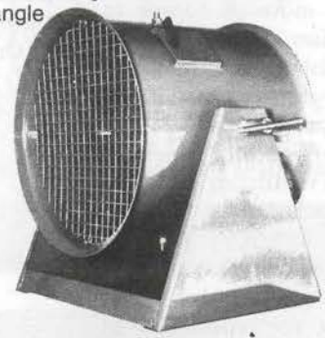


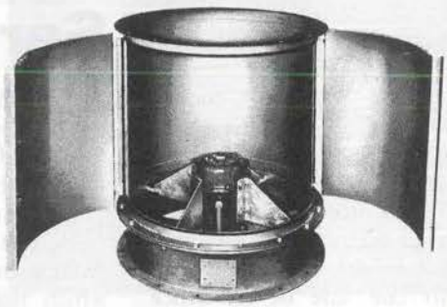
5. Guide vane axial flow fans: Easily fitted for increased pressure development



4. Propeller fans

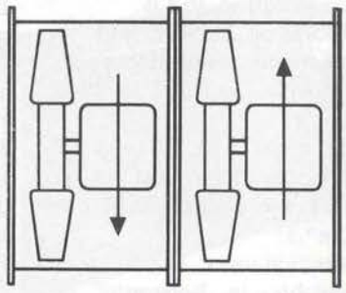
2. Portable cooling fans: Cool at any angle





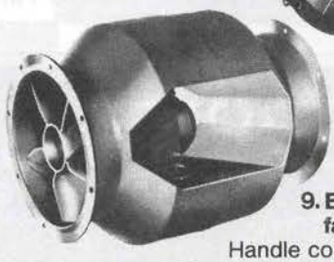
3. Marine fans

6. Belt driven axial flow fans

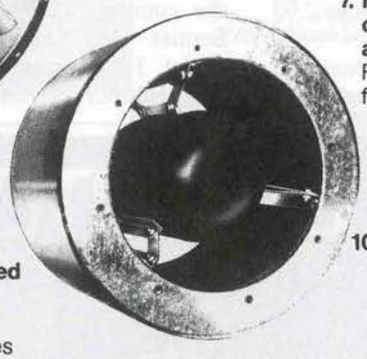


7. Multi-stage contra-rotating axial fans: For very high fan static pressures

8. MYSON VARISPEED* axial flow fans: Unique control provides infinitely variable air flow rates under pressure



9. Bifurcated fans: Handle corrosive fumes, hot air and gases



10. Fan ancillary equipment and fan silencers: Wide range available

Most fans are available ex stock from:–

ventac & co. ltd.

Grand Canal Quay, Dublin 2.
Telephone: 713499. Telex: 5307.

Just fill in the coupon for further details and your free Myson drinking mug, **(subject to availability).**

MYSON

Myson Group Marketing Limited
Ventilation Division, Peartree Road, Stanway, Colchester, Essex CO3 5LD.
Telephone: Colchester (0206) 43311 Telex: 98231.

Be a Myson fan

Please send details on fan ▶ 1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

Please tick appropriate box ☐ ☐ ☐ ☐ ☐ 6 7 8 9 10

Name _____

Company _____

Address _____

_____

_____

Telephone: _____

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DOI: 10.21427/D7N99M

packages some for remote location, some for location in the area to be served. Capacities up to 202.5 kW.

Chilling packages: The big selling 30 series is a highly compact range of liquid chilling packages for air conditioning or process cooling applications. Capacities to 422.4 kW.

VAV units: The 37 series VAV units offer unusually good room air distribution. The split plenum model will deliver cool air to one side of an office partition and warm air to the other. The capacity range is from 9.44 to 188.76 L/s.

Absorption chillers: The 16 series hermetic absorption machines provide from 352 to 3942 kW.

Fan coils: The 40 and 42 series between them span the fan duty range from 0.10 to 11.80m^3/s.

Induction units: The 36 series is available in horizontal or vertical form, from 0.44 to 2.93 kW.

For further information contact: Walker Air Conditioning Ltd, Dublin Industrial Estate, Finglas Road, Dublin 11, (Tel: 300844).

Sermet

The recent move of Sermet to new premises at 11 Lisburn Street, Hillsborough, is significant in the development of this young company.

Sermet offer a wide variety of heating and ventilating products, which is backed by a comprehensive sales and service policy.

The company's air conditioning specialist equipment is the well known and reputable F H Biddle range which covers all sizes from the small packaged unit to the full modular plant for industrial and commercial use. The Biddle heating range of convectors and heaters is also well to the fore in the industry.

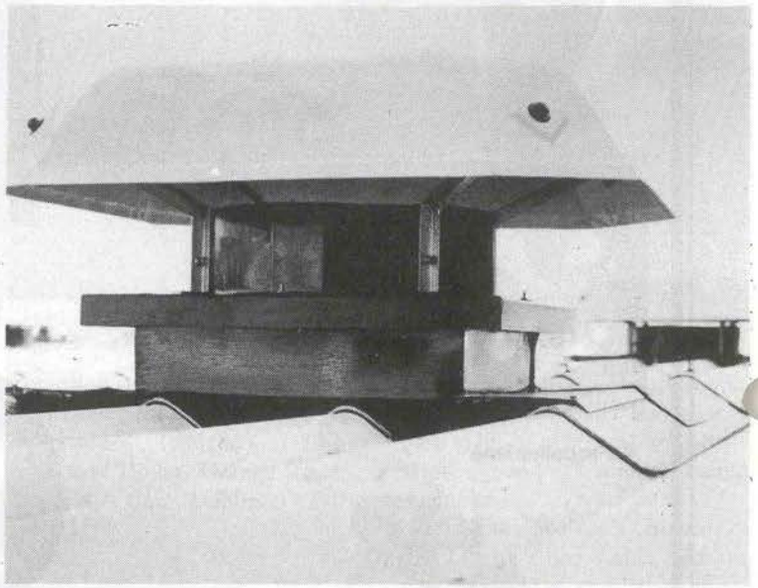
For further information on the company's service, contact: Sermet (NI) Ltd, 11 Lisburn Street, Hillsborough, Co. Down, (Tel: Hillsborough 682531).

Solus

Solus manufacture a wide range of ventilating equipment and provide a variety of service to the entire building industry.

One of their newest innovations has been a low silhouette ventilator which offers a varied scope for system design. The close fitting cowl and clean neutral finish ensures unobtrusive installation, and this makes the unit particularly suitable for new building specifications.

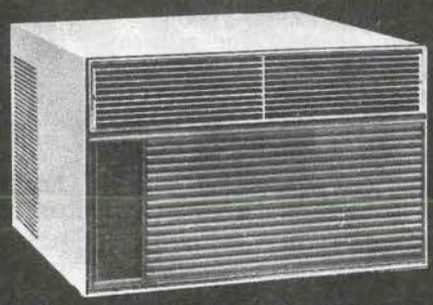
Solus also do a high velocity extract unit which is a power-



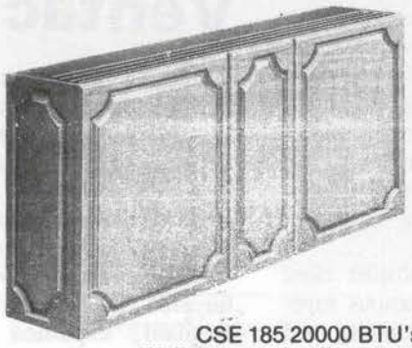
The new "G" Power Ventilator is one of the latest items from Solus Building Products.

E06-6000 BTU's
E09-9000 BTU's
Wall/Window Mounted

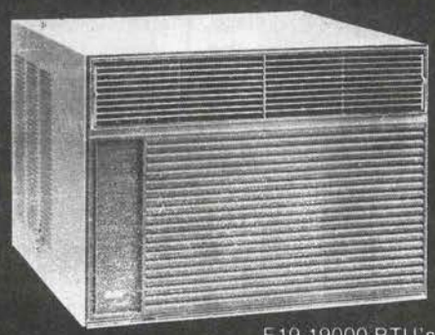
CSE 145 15500 BTU's
Wall mounted console split system. Top discharge. Electric resistance heaters available



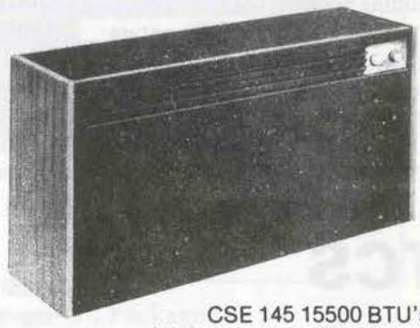
E13-13000 BTU's
E16-16000 BTU's
Window/Wall mounted. Electric resistance heaters available



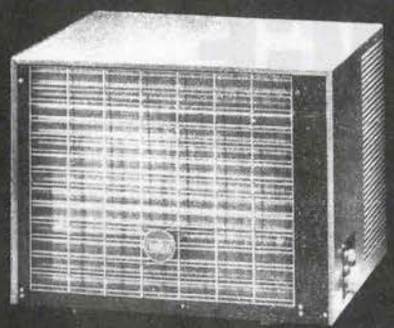
CSE 185 20000 BTU's
Wall mounted split system console. Top discharge. Electric resistance heaters available



E19-19000 BTU's
E22-22000 BTU's
Window/Wall mounted. Electric resistance heaters available

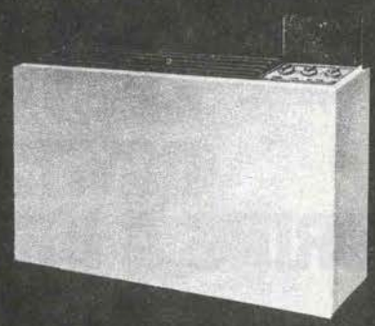


CSE 145 15500 BTU's
High or Low wall mounted. Front discharge. Electric resistance heaters available



Condensing Unit CSC 145
CSC 185
Wall hung or floor mounted

CSE 185 20000 BTU's
High or low wall mounted front discharge. Electric resistance heaters available



Throughwall console 9500 BTU's
12500 BTU's
Top discharge. Electric resistance heaters available

Don't make a move in air conditioning until you've got the facts on Keeprite

This is the superb range of Keeprite packaged Air Conditioning...versatile enough to meet every requirement...high or low mounting...through the wall or window...and all with high BTU's per watt for running economy.
True comfort is a blend of temperature, humidity control and filtration. Efficient humidity control is built into every Keeprite unit...large coils wring moisture from the air while washable filters collect air borne pollen, dust and dirt. This combined with low noise level makes Keeprite the range to choose from.

O'GORMAN

W. H. O'GORMAN (IRELAND) LIMITED
Unit 13, Dublin Industrial Estate, Glasnevin, Dublin 11.
Telephone: 300977/300193/300044. Telex: 30981.

To W. H. O'Gorman (Ireland) Limited, Unit 13, Dublin Industrial Estate, Glasnevin, Dublin 11. Tel: 300977/300193/300044. Telex: 30981.
Please send me further information by return.

Name .....
Position .....
Company .....
Address .....
.....
Tel No .....

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AIR CONDITIONING AND VENTILATION

ful heavy duty ventilation system designed for efficient and rapid extraction of large volumes of air for minimum cost. It has proved to be the ideal means of dealing effectively with fume and highly contaminated air conditions.

The company, located in Bray, also manufacture a variety of louvre (fixed blade and operated) and roof ventilating systems. Purpose-made flashings and gutters, manufactured from aluminium or steel, are equally available to suit all the normal requirements of the industrial building trade.

Further information, contact: Solus Building Products Ltd, Corke Abbey, Bray, Co Wicklow, (Tel: 862984).

TCS

Temperature Control Services Ltd of Airton Close, Tallaght, Dublin, ranks as one of the leading Irish companies engaged in the design, manufacture, installation, commissioning and servicing of heating, ventilating and air conditioning control systems.

Since its formation, TCS has supplied control systems on many of Ireland's leading construction projects, and has worked in conjunction with all the major consulting engineers. Major projects completed include the Smurfit Group head office complex at Clonskeagh, the new PMPA office development in Wolfe Tone Street, Dublin, and the Dairy Science Building at University College, Cork. In addition, TCS has also been involved abroad and has already completed two major contracts in Saudi Arabia.

In the manufacture of control systems at its modern purpose-built premises at Tallaght, TCS uses a wide variety of British and Continental control equipment, which includes such leading ranges as Staefa Electronic Controls, Satchwell Electronic and Pneumatic Controls, Robert Shaw Pneumatic Controls, Satchwell Sunvic Domestic Heating Controls and Johnson Pneumatic Controls.

Further information: TCS Ltd, Airton Close, Airton Road, Tallaght, Co. Dublin, (Tel: 512634).

Thompson

Thompson's Air Heating and Ventilating Ltd, operate from a factory in Mallow which is equipped for the production of low and high pressure ducting to SMACNA standards with joints to withstand air pressures of up to 225mm WG, using the USM Bar Cleat. They also undertake the production of boilers and furnace flues in mild steel and stainless steel and aluminium clading for the insulation of pipes.

They have established close co-operation with various suppliers of air conditioning and ventilating equipment which enables them to produce designs for specialised requirements such as the ventilating of pharmaceutical and such specialised manufacturing processes as in the chemical and allied industries.

The company, will produce designs, specifications, and quotations for any such work, including the heating and ventilating of factories, restaurants, supermarkets, kitchens and such buildings.

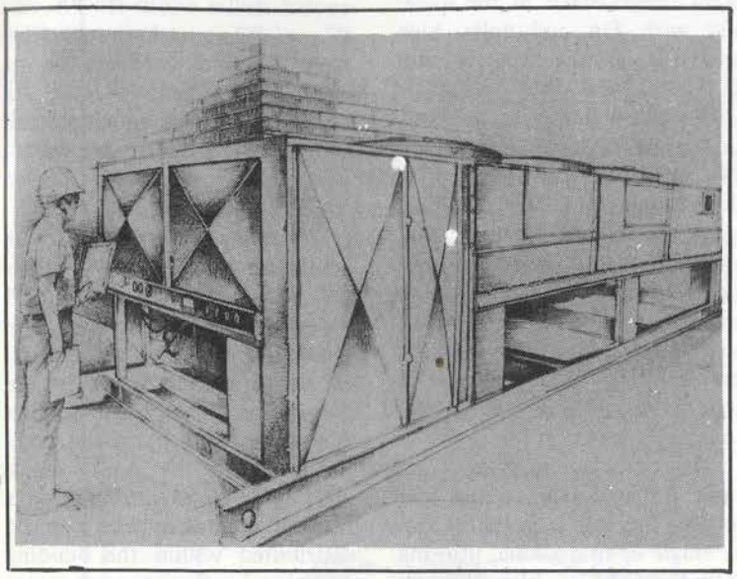
Further information: Thompson's, Shortcastle, Mallow, (Tel: 022 21521).

Ventac

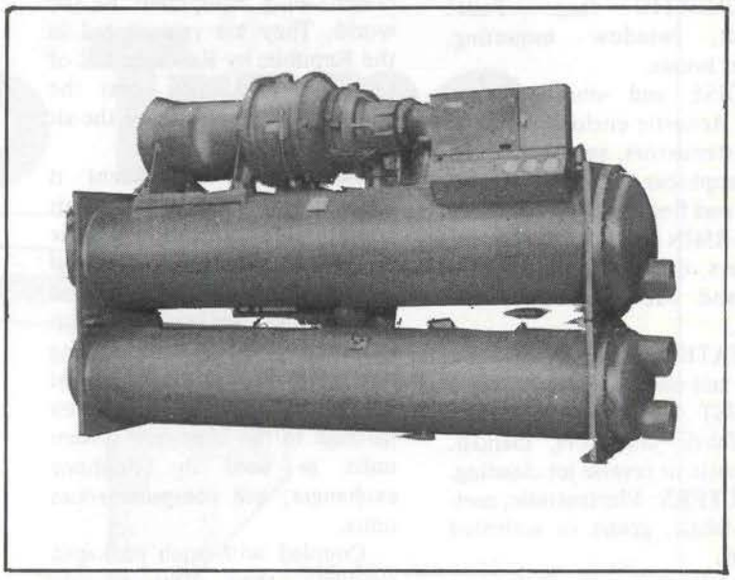
Ventac Ltd are specialist stockists and distributors of fans and a wide range of mechanical air movement equipment and accessories, including noise and vibration control products. Their extensive range includes:

FANS: Axial (aerofoil), bifurcated, propeller, centrifugal. standard, explosion proof or flameproof enclosures. Steel, PVC or Polyproplene Casings. Special treatment includes: Epoxy resin, chlorinated rubber

WESTINGHOUSE



Westinghouse P.D. Packaged
Water Chiller
Air Cooled



Westinghouse P.E. Packaged
Water Chiller
Water Cooler

Sole Irish Agents

RECONAIR LTD.

TOTAL ENVIRNOMENTAL EQUIPMENT SUPPLIERS

Industrial and commercial application design facilities

RECONAIR LTD.

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Tel: 470611/2/3 Telex: 31356.

Guaranteed 24 hour 7 day Service

Also available on Pageboy – 972229 Units 804/547/345

AIR CONDITIONING AND VENTILATION

and applied plastic.

ROOF UNITS: Propeller, axial, centrifugal and twin exhaust types, GRP aluminium or galvanised steel construction.

PERSONAL coolers: Industrial and domestic.

DOMESTIC fans: Toilet extract, window mounting, cooker hoods.

NOISE and vibration controls: Acoustic enclosures, doors and attenuators, springs, rubber or neophrene mounts, inertia bases and floating floors.

TERMINAL devices: Grilles, registers, diffusers, volume control and fire dampers, access doors.

HEATER batteries: Steam, water and electric.

DUST handling: Cyclones and fabric collectors, manual, automatic or reverse jet cleaning.

FILTERS: Electrostatic, metallic, fabric, grease or activated carbon.

HANDLING units: PVC fume cupboards and fume cupboard fans.

Further information: Ventac Ltd, Grand Canal Quay, Dublin 2, (Tel: 713499).

Westinghouse

Westinghouse Air Conditioning International claim to be the largest manufacturer of air conditioning equipment in the world. They are represented in the Republic by Reconair Ltd of Coolock, who also boast the largest service back-up to the air conditioning industry.

Westinghouse equipment is adaptable for any type of air conditioning application and the range starts at the lower end of the market with a two-ton refrigeration air-cooled warm mounted "Whisp Air" cooling unit, with the option of a heat pump application, and continues through to the large split system units as used in telephone exchanges, and computer room units.

Coupled with such packaged products, they offer a wide range of roof-top heating and cooling units, with the option of electric heat or utilising the unit as a heat pump. Pre-charged condensing units up to eight tons refrigeration and field charged condensing units to 60 tons refrigeration are available, and are matched to a range of direct expansion cooling coils in packaged units.

Westinghouse applied equipment ranges starts at the lower end with fan coil units, high medium and low capacity with single or twin coil, electric or low pressure hot water heating, through to high velocity induction units. Westinghouse offer three types of air handling units, for low, medium, and high pressure applications, with air quantities from 400 to 44000 cfm and with a large variety of heating and cooling coils, from the standard finish through to copper finned, copper tinned coils.

The coils fan vary one row eight fin per inch to ten row sixteen fins per inch. Units can be single or multi-zone, utilising draw-through or blow-through systems and coils utilised for water refrigerant or steam applications.

Three types of chiller are available. They are recipricating air-cooled, recipricating water-cooled and centrifugal chillers. The air-cooled chillers which are the PD and PN range have capacities ranging from 15 tons refrigeration to 117 tons refrigeration, the recipricating water cooled chiller which are PX, PB, PZ and PQ range have capacities from six tons refrigeration to 250 tons refrigeration and the centrifical chillers which are the PF and PE models have capacities ranging from 86 tons to 570 tons refrigeration.

Westinghouse now offer a centrifical packaged water chiller for heat recovery, thus PH model. This unit utilises the condenser heat which is extracted from the chilled water by the evaporator. This heat is then added to the heat of the compression and the motor heat, and the total is transfered to a heating condenser and can be distributed within the building as space heating, process water or pre-heat for domestic water.

Further information: Reconair Ltd, Unit 4A, Coolock Industrial Estate, Dublin 5, (Tel: 470611).

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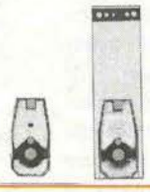
HEATING WHOLESALERS LTD

Present the PENSOTTI Range of Cast Iron Boilers

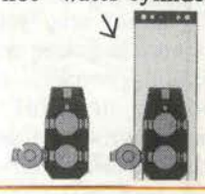
P1
Domestic
20.000 - 46.000



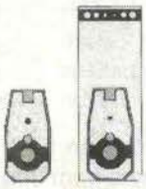
G1
9.000 - 25.000

M2
Dual Full
Solid + Fuel
25.000 - 54.000

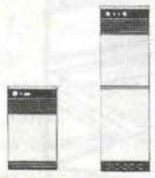
with hot water cylinder.



P2
Commercial
45.000 - 75.000



G2
12.000 - 24.000



M3
56.000 - 96.000

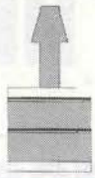
P3
Pressurised
Commercial
84.000 - 180.000

G3
25.500 - 50.000

M4
105.000 - 224.000

R4
Pressurised
Industrial
131.000 - 320.000

G4
32.000 - 90.000

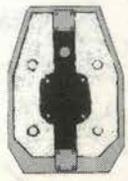


M5
195.000 - 370.000

R5
Pressurised
Industrial
360.000 - 710.000

P4
Natural Draft
Industrial
140.000 - 332.000

P5
Natural Draft
Industrial
334.000 - 582.000



All Units Available with RIELLO Burner Units.

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FOR THE COMPLETE RANGE OF
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FOR ALL IRELAND

HEATING WHOLESALERS LTD

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